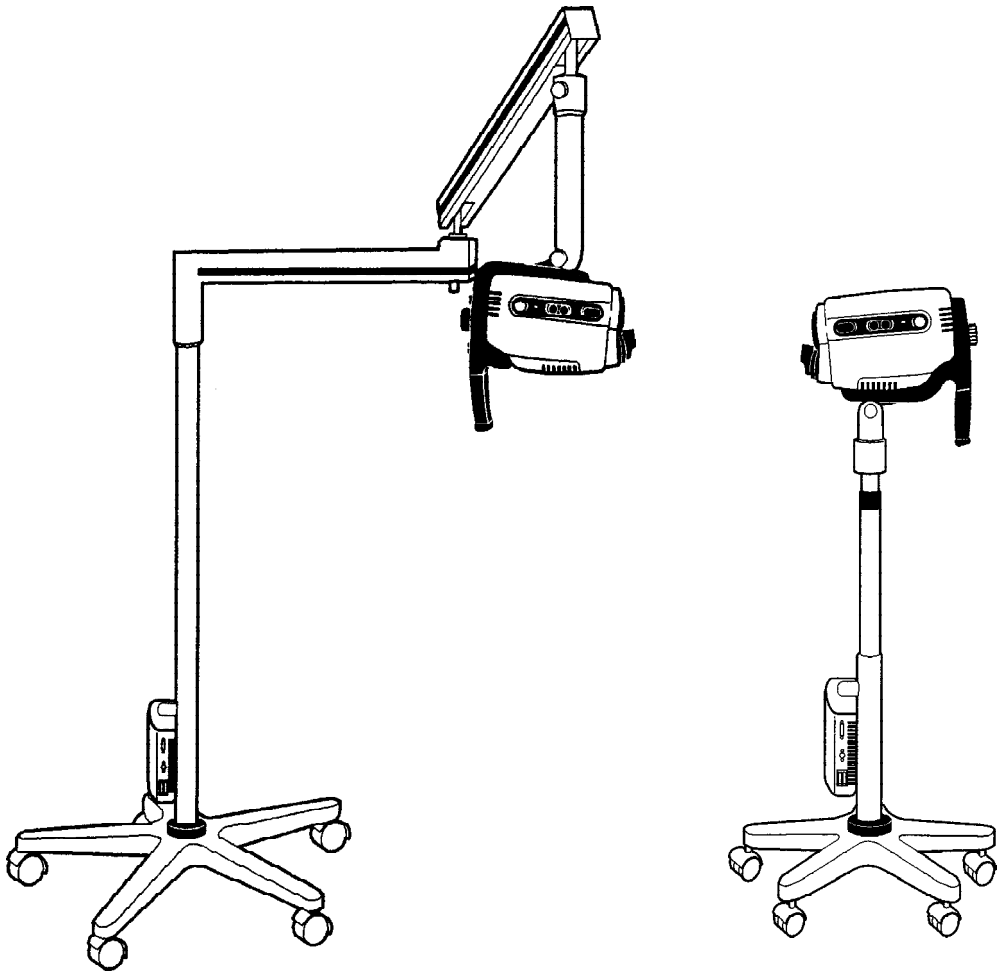
Women's Health
Operation Manual

SERVICE MANUAL



Video Colposcope

Models:
Vertical Pole: 880000, 88002, 88004, 88006
Swing Arm: 89000, 89002, 89004, 89006

Welch Allyn, Inc.
4341 State Street Road
P.O. Box 220
Skaneateles Falls, NY 13153-0220
Telephone: 315-685-4100
1-800-535-6663

Part No. 880220

Part No	Rev	Description	ECN #	Date	Initiator
880220	A	New Release	5-35922	7/97	R.Settembre

DRAWINGS AND/OR ILLUSTRATIONS AND/OR PART NUMBERS CONTAINED IN THIS DOCUMENT ARE FOR REFERENCE PURPOSES ONLY! FOR CURRENT REVISIONS CALL WELCH ALLYN.

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Section 5: Repair Parts Reference Drawings and Interconnect Diagrams

5.1 Stand Alone Colposcope Repair Parts and Drawing References. (5 pages)
5.2 Drawings
5.3 Interconnect Diagrams

Help Information:

- All service and repairs must be performed by authorized Welch Allyn personnel or agents, using Welch Allyn replacement parts. Failure to do so will invalidate the product warranty.

- Customers in North America should return instruments requiring service to the Welch Allyn Technical Service Department list below, or to an authorized Welch Allyn distributor.

Technical Service Department
Welch Allyn, Inc.
4341 State Street Road
Skaneateles Falls, NY 13153-0220
U.S.A.
Telephone: 800-535-6663
Fax: 315-685-4653

- Customers outside of North America should return their units to a local, authorized Welch Allyn distributor, or to their nearest Welch Allyn service center. The part and serial numbers are located on the housing of the colposcope near the fan. Remove the colposcope from the handle to locate these numbers.

- **Troubleshooting assistance is contained in Section 3 of this manual.**

- Please read and understand Colposcope Users Manual P/N 880136, and all peripheral equipment users manuals.

Thank you for purchasing the Welch Allyn Video Colposcope. Follow the operation and maintenance instructions found in this manual and your video colposcope will provide you with many years of reliable service. Please read these instructions thoroughly before attempting to use your new video colposcope.

CAUTION: Federal law restricts sale of this device to, or to the order of, a physician or other appropriately licensed medical professional.

WARNING: Users of this equipment should be thoroughly trained in the appropriate medical procedures. Furthermore, they should take the time to read and understand these instructions before performing any procedure. They should also read and understand the instructions for any other equipment used in conjunction with the video colposcope (i.e. electrosurgical generators). Failure to do so may result in injury to the patient and/or damage to the video colposcope.

IMPORTANT: The material outlined in this manual should be reviewed and understood prior to operation of the equipment.

NOTE: This equipment has been tested and complies with emissions standard EN60601-1-2: 1993, CISPR Publication 11:1990/EN55011: 1991 for Radiated and Conducted Emissions, Group 1, Class B.

This equipment also has been tested and complies with susceptibility standards to electrostatic discharge (ESD), radiated electromagnetic fields, fast transient bursts, and conducted surge interference. The procedures and criteria for conformance are contained in IEC801-2, 801-3, 801-4, 801-5, and EN60601-1-2: 1993.

In addition, this equipment has been tested and complies with EN6000-3-2 (1st Edition) covering harmonic disturbances in supply systems caused by household appliances and similar electrical equipment, Part 2, and EN 6000-3-3 (1st Edition) covering voltage fluctuation disturbances in supply caused by household appliances and similar electrical equipment Part 3.

INDICATIONS FOR USE: For examination of the tissues of the vagina, cervix, and external genitalia, to investigate, by means of magnification, abnormal cervical cytology or suspicious lesions of the lower female genital tract. Also used for corresponding biopsy and treatment, when indicated.

NOTE: This device complies with the guidelines of the American Conference of Governmental Industrial Hygienists threshold limits values for ultraviolet radiation for exposure time and distance consistent with the intended use of this device.

General Information

1.1 General Precautions and Symbols

1.2 Summary of Warnings and Cautions

1.3 Basic System Description

1.4 Product Numbers and Descriptions

1.5 Recommended Initial Settings for Monitor

1.6 Cleaning

General Precautions

For safety, the video colposcope should only be coupled to a grounded 110-120VAC hospital-grade outlet (220-240 volt, 50 cycle international).

The video colposcope should not be operated in the presence of flammable or explosive gases or chemicals, or installed in areas where these materials are commonly used.

To avoid overheating, the video colposcope should not be positioned closer than 6" to any wall.

Keep all liquids away from electrical equipment to avoid the possibility of shock and instrument damage.

Occasionally inspect the power cord for signs of cuts, abrasions or dents.

The video colposcope should never be stored or operated in areas where it could get wet or could be exposed to any environmental conditions like extreme temperature or humidity, direct sunlight, dust, etc.

The lamp is extremely bright. DO NOT stare directly into illumination lens when the lamp is lit.

All service to the video colposcope must be performed by Welch Allyn or by an authorized repair center.

Video colposcope user should adhere to the operating conditions found in this manual. Otherwise, instrument damage may occur and/or operator/patient safety may be comprised.

There are no user serviceable parts (other than the lamp and fuses) in this unit or in its accessories. Any attempt to disassemble and/or repair this unit will result in voiding of the warranty.

Symbols

On: Power: Connects to the low voltage supply.

Off: Power: Disconnects from the low voltage supply.

Caution: Consult user's manual for additional information.

Warning: Consult user's manual for additional information.

Warning: High temperatures

Type B Equipment

Risk of fire. Replace fuses as marked.

Warning: High-intensity light

Warning: Power supply of unit is energized whenever power cord is plugged in.

CE The CE mark on this product indicates it has been tested to and conforms with the provisions noted in the 93/42/EEC Medical Device Directive.

WARNING: All video monitors and peripheral equipment used with this instrument must be IEC 601-1 (or UL 2601) listed to comply with medical electrical safety guidelines. If not IEC 601-1(UL-2601) listed, the monitor/peripheral equipment should be positioned outside of the 6-foot patient contact area. Please contact Welch Allyn for more information.

WARNING: Total system risk current should not exceed 50µA. An isolation transformer is required if the total system risk current exceeds 50µA when accessories are interconnected.

CAUTION: The video colposcope is cooled via a vent fan located in the back of the unit. The fan draws air from the front of and beneath the video colposcope and exhausts the air out the back of the video colposcope. Verify that the unit is no less than 6" from a wall.

WARNING: DO NOT use a converter adapter that will convert the three-prong AC plug to a two-prong line plug. The power supply in the video colposcope will not be properly grounded and electric shock might result.

WARNING: DO NOT clean illumination lens with alcohol.
DO NOT touch optical or illumination lenses except as described in Maintenance section of this manual.

WARNING: The lamp operates at a high temperature. DO NOT attempt to remove the lamp before allowing it to cool. Allow at least five minutes for the lamp to cool before replacing. Replace with Welch Allyn lamp #09800 only.

CAUTION: The colposcope can be damaged if the unit is transported while holding the handle. The unit should be transported by grasping the pole.

The Stand Alone version is not a Video Path product and does not require a light source. It is a camera and light source in one compact housing mounted on either a vertical pole stand or a swing arm stand as shown in Figure 1. The table on Page 1- 6 is a list of product numbers and repair bill numbers. It also lists the product numbers for the camera units only.

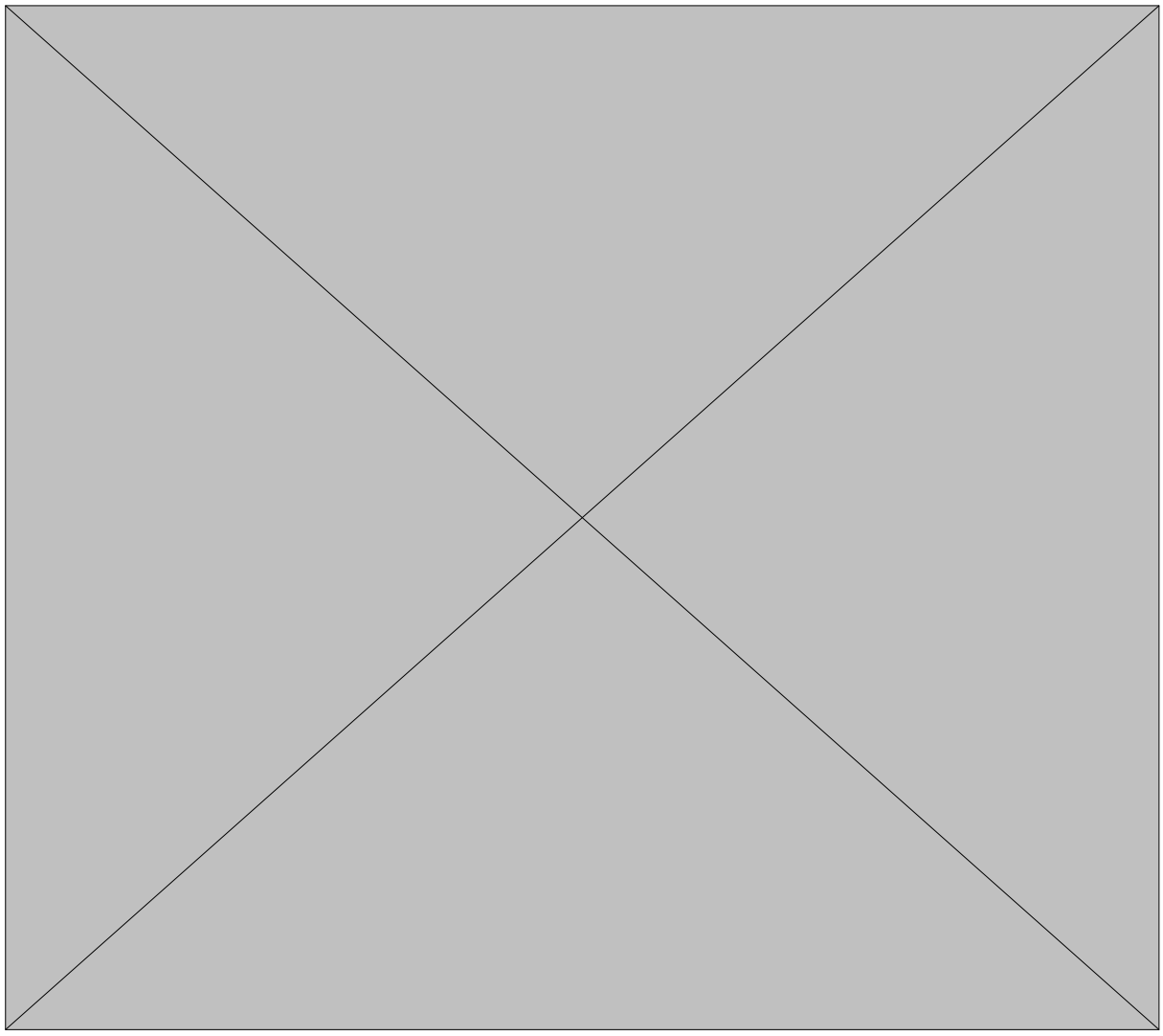


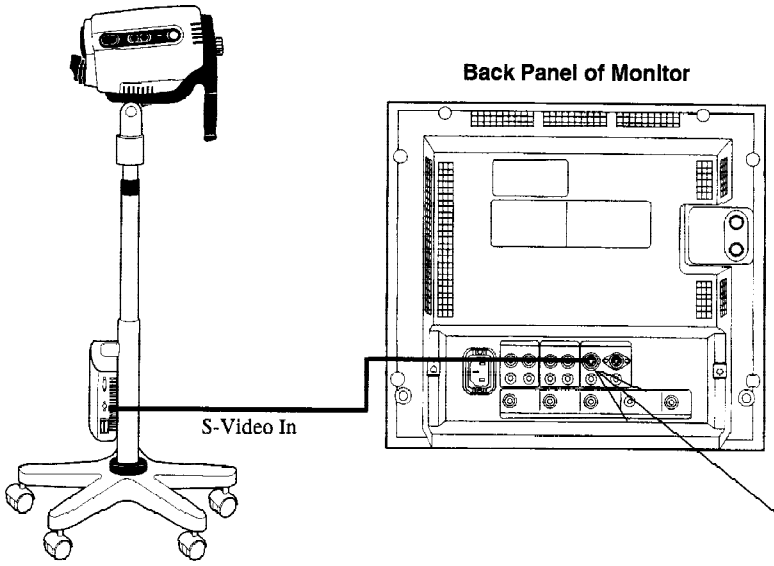
Fig. 1

Product Number	Repair Bill #	Description/Format (Burned-in & aligned camera)	Market
88000 (88021 Camera/Pole with a 49555 Base)	88021 Repair (Camera/Pole repair bill)	Vertical Stand with RS232 NTSC Camera Unit is PN 880080-501	U.S.
88002 (88022 Camera/Pole with a 49555 Base)	88022 Repair (Camera/Pole repair bill)	Vertical Stand with RS232 PAL Camera Unit is PN 880080-502	Europe
88004 (88024 Camera/Pole with a 49555 Base)	88024 Repair (Camera/Pole repair bill)	Vertical Stand with RS232 Pal Camera Unit is PN 880080-502	United Kingdom
88006 (88026 Camera/Pole with a 49555 Base)	88026 Repair (Camera/Pole repair bill)	Vertical Stand with RS232 PAL Camera Unit is PN 880080-502	Australia
89000 (89021 Camera/Swing Arm with a 89050 Pole and a 89555 Base) (3 cartons)	89021 Repair (Camera/Swing Arm repair bill)	Swing Arm with RS232 NTSC Camera Unit is PN 880080-501 (reposition toe clip for swing arm attachment)	U.S.
89002 (89022 (Camera/Swing Arm with a 89050 Pole and a 89555 base) (3 cartons)	89022 Repair (Camera/Swing Arm repair bill)	Swing Arm with RS232 PAL Camera Unit is PN 880080-502 (reposition toe clip for swing arm attachment)	Europe
89004 (89024 Camera/Swing Arm with a 89050 Pole and a 89555 base) (3 cartons)	89024 Repair (Camera/Swing Arm repair bill)	Swing Arm with RS 232 PAL Camera Unit is PN 880080-502 (reposition toe clip for swing arm attachment)	United Kingdom
89006 (89026 Camera/Swing Arm with a 89050 Pole and a 89555 base) (3 cartons)	89026 Repair (Camera/Swing Arm repair bill)	Swing Arm with RS232 PAL Camera Unit is PN 880080-502 (reposition toe clip for swing arm attachment.)	Australia
	89050 Repair (repair bill for the swing arm pole)	Pole, Swing Arm Packaged	

1.5 Recommended initial settings and connections for Sony PVM-1350 Monitor

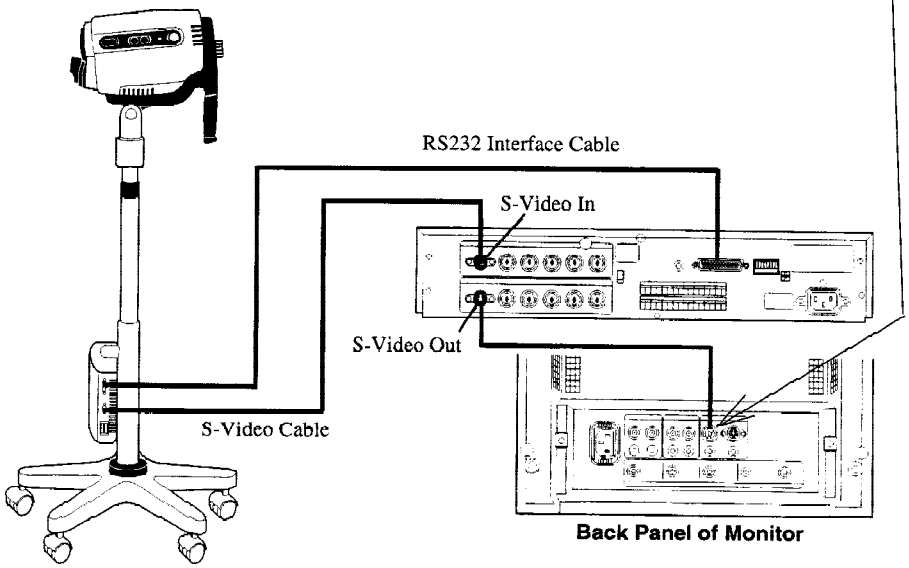
Connection Diagrams

Connecting Video Colposcope with Monitor

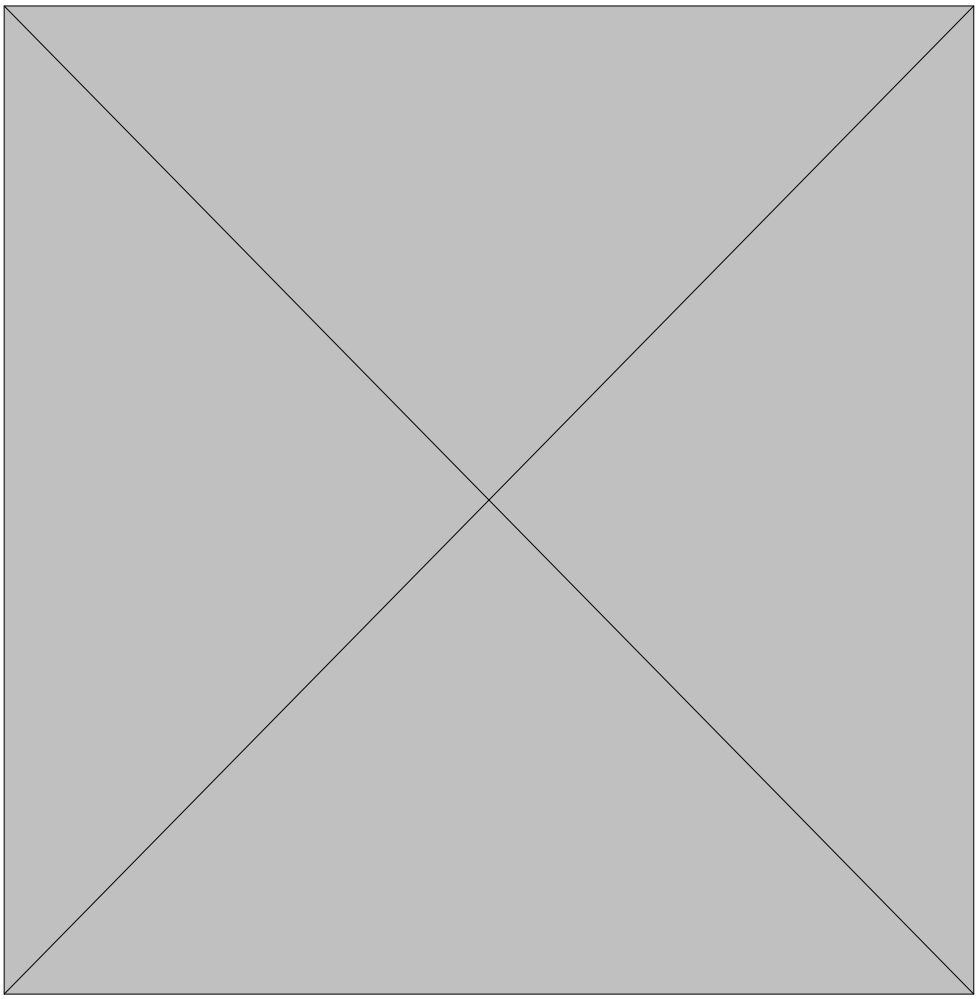


Connect the S-VHS cable to jack " LINE C IN"

Connecting Video Colposcope with VCR/Video Printer



WARNING: All video monitors and peripheral equipment used with this instrument must be IEC 601-1 (or UL 2601) listed to comply with medical electrical safety guidelines. If not IEC 601-1(UL-2601) listed, the monitor/peripheral equipment should be positioned outside of the 6-foot patient contact area. Please contact Welch Allyn for more information.



Factory “Default” Settings of Monitor:

Refer to PG 5 of Sony PVM-1350 Operating Instructions for complete details.

Menu Item Number:	Description:	Default Factory Setting:
1	Main Menu	follow instructions
2	Chroma Set up menu	Setting is **OFF**
3	Caption Vision menu	Setting is **OFF**
4	User Config 1 menu	follow instructions
5	User Config 2 menu	follow instructions
6	Auto Adjust screen	follow instructions
7	Color System Display menu	setting is **AUTO**
8	V Hold Screen	adjust only if necessary
9	RGB SYNC menu	setting is **SYNC ON G**
10	NTSC Setup Level menu	setting is **7.5**
11	Language Menu	setting is **ENGLISH**

Video Colposcope Cleaning

Turn the power switch off and unplug the power cord from the electrical outlet prior to cleaning.

The video colposcope housing can be wiped down with a cloth dampened slightly with a mild solution of disinfectant. Be careful not to allow the plug prongs to get wet. Also be careful not to allow the camera lens or lamp lens to get wet.

Disinfecting Solutions

The disinfecting solutions listed below are safe for cleaning the housing of the video colposcope if used according to the manufacturer's instructions for cleaning and disinfecting, and in accordance with procedures detailed in the cleaning section of this manual.

- Cidex, Cidex Plus
- 70% isopropyl alcohol
- 10% mild bleach solution
- Metracide
- 10% Wescodyne
- Banicide
- Wavecide-01

Note: References to brand names are not endorsements of their efficacy as disinfecting solutions. However, tests have shown these solutions to be compatible with Welch Allyn colposcopes, providing the manufacturers's directions are followed. Do not use any other solutions unless a sample has been sent to Welch Allyn for compatibility testing.

IMPORTANT

Be careful not to allow solution to drip into the air vents.

DO NOT spray solution into the air vents.

DO NOT sterilize any part of the unit.

DO NOT IMMERSE any part of the unit in cleaning solutions.

Illumination Lens Cleaning

The lamp lens may be cleaned with a cloth dampened slightly with warm water and mild detergent.

CAUTION: DO NOT clean illumination lens with alcohol. **DO NOT** touch optical or illumination lenses except as described in Maintenance section of this manual.

Camera Lens Cleaning

The camera lens may be cleaned with isopropyl alcohol or any commercial lens cleaner.

Service

2.1 Bench Test

2.2 Required Tools

2.3 Camera Alignment Procedure

2.4 Hi-Pot and Leakage Current Testing

Bench Checks of the Stand Alone Video Colposcope

Perform the following functional checks of the colposcope when it is received for service and after repair: Perform Video Colposcope cleaning per page 16 of Welch Allyn Video Colposcope User's Manual pn 880136 (reprinted in this service manual in Section 1.)

1 Perform physical examination of returned colposcope and accessory cables, cords etc.

A) Make record of what components were received. Note serial numbers where applicable.

B) Check the physical and electrical condition of all items including S-video cables, power cords, RS232 cables, all pins and sockets.

C) Check the lamp connector. The lamp has a small and a large pin. Make sure the lamp socket has not been ruined by someone connecting the connector in reverse. This would damage the connector and make lamp operation intermittent.

Connectors must fit lamp pins securely.

2 Connect Colposcope to monitor, and or other system components such as Video Printerand perform test of colposcope functions listed below:

A **Lamp** operation

B **Fan** operation

C **Lamp door micro switch safety function.** Try to run unit without lamp door. If lamp lights, then micro switch(s) are stuck or defective.

D **Colposcope attachment** to pole or swing arm.

E **Colposcope functions**...allow approximately 10 seconds for the camera unit to stabilize and focus. The camera will stabilize at zoom (-).

F **Focus:** Check focus, zoom

G **Check video picture quality:** view a color bar chart and verify that the colors on the monitor are (visual reference) the same as the bar chart. Verify that the image is free from any visible video noise.

H **Check green filter operation:** the green filter led should flash as it changes into an out of the green filter mode. It will stay slighted while the green filter is on.

I **Check the Light Director movement.** It should move freely and detent in three positions: 45 degrees left, right and back to center. Check the projected spot for uniformity and no dark spots.

3 Check all mechanical fasteners for tightness.
Check all cords and cables for solid connections, (wiggle the connectors and cords while the colposcope is operating and look for any breaks or static on the monitor.)

4 Check the printer functions of the colposcope handle.
Verify that the “F” button will freeze the live image as displayed on the monitor or three beeps from the printer and “No Paper” text appears on the monitor and printer.
Verify that the “C” button will print the frozen image displayed on the monitor.
Verify that the “V” button will cause the monitor to alternately display the live video then the still “frozen” image.

5 Check the stands (swing arm, and vertical pole, casters) for function and smooth operation. Check the brakes...(Do they hold?)

6 Check lenses for scratches, fingerprints, smudges, dust, moisture.

1) Torx T-15 Driver for housing screws.

2) English Hex Key set for various hex head fasteners

3) One extra hex key

4) RS232 Interface Cable Welch Allyn order number 88500

5) Strap Wrench T-10913

6) Achromatic Lens Assembly Tool - T-14716

You must order the following to check out the Colposcope

Monitor: Service Equipment should include a monitor for your standard. This is a Sony PVM 1350 (NTSC) or a Sony PVM-1450 QM (PAL).

Note: this is not an underscan monitor as is the Sony PVM-1351Q AC120V 50/60Hz (NTSC/PAL/SECAM)

Printer: To check the RS232 functioning of the Colposcope. This is a Sony VP-1800MD (NTSC) or a Sony VP-1800 EPM (PAL).

Standard electronic hand tools and Digital Volt Ohm Meter will be required for basic troubleshooting such as checking output voltages and continuity.

The information below is intended for those who wish to know how the camera is calibrated:

Sony Cameras Welch Allyn PN 880057 (NTSC) and PN 880057-1 (PAL) are processed during manufacturing as follows:
Photo 1:

1. Camera is received from Sony with accessory connectors in a bag (background).
2. Camera has a small circuit board (upper left) attached by two small metric screws.

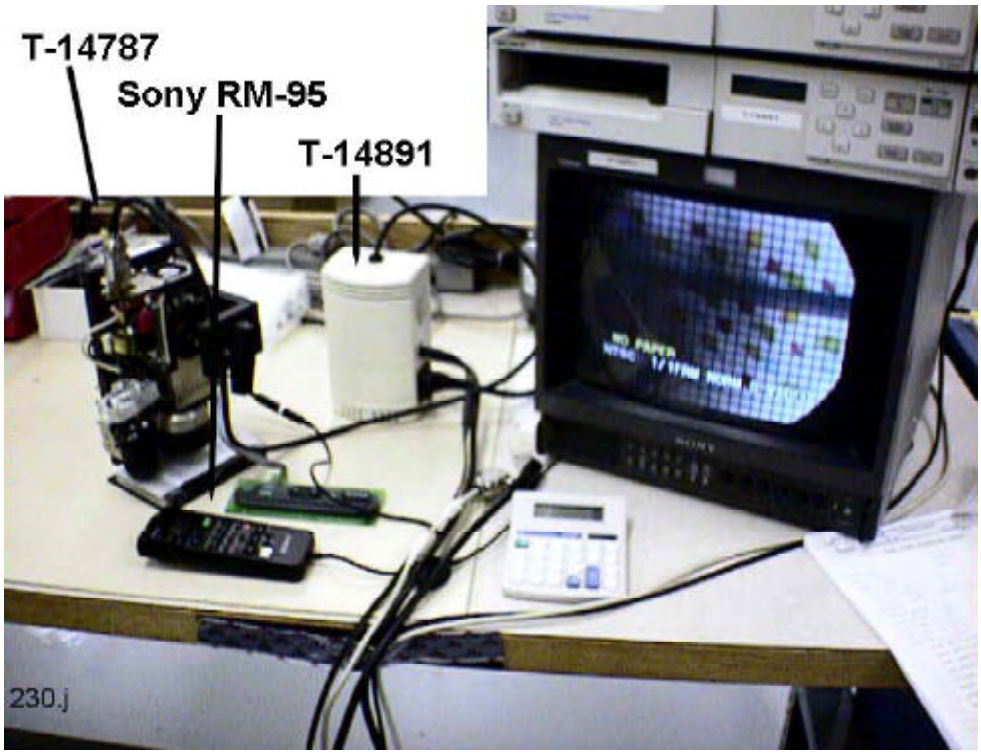
Camera as received from Sony

Before installing Sony Cameras Welch Allyn PN 880057 (NTSC) and PN 880057-1 (PAL) into a Colposcope camera chassis perform the following steps:

- Discard bag of connectors and remove and discard circuit board.
- Camera is now ready to be installed in chassis and have calibration (vignetting) checked.
- Follow camera vignetting checking / calibration process described in Section 4 Photos 53 through 58.

The test equipment required for checking and adjusting camera calibration (vignetting) is shown below:

Call Welch Allyn for ordering details.



Camera Calibration (Vignetting) Equipment including: “Sony RE-95 Remote Commander for Adjustment,” suitable printers, and a Sony PVM-1351Q AC 120 V 50/60 Hz Color Monitor

Calibration of the Stand Alone Colposcope Camera:

A convenient service strategy regarding camera calibration is to stock one or two Colposcope Sub Assemblies (NTSC Colposcope Sub Assembly PN 880080-501, or PAL Colposcope Sub Assembly PN 880080-502.) These Colposcope Sub Assemblies are used as exchange units if a camera failure occurs. Exchange a failed Colposcope Sub Assembly with a factory calibrated Colposcope Sub Assembly which has had Camera Alignment Procedure performed at the factory.

This eliminates the need for calibration equipment at your facility. The camera alignment procedure itself takes only six minutes, but requires additional equipment such as the handheld remote control called a “Sony Remote Commander for Adjustment” and a Sony Underscan monitor (for example, a Sony PVM-1351Q AC 120V 50/60 Hz Color Monitor.) To switch vertical pole type mount to swing arm type mount, simply re-position the toe piece. There is enough information in this manual to elect to equip your service center with the necessary equipment and training to perform the alignment procedure. But an Underscan monitor would have to be purchased instead of a non-Underscan monitor.

The exchange process:

If a colposcope fails due to a failed camera follow the steps below:

- Your technician tests/diagnoses returned colposcope and determines failure is due to bad camera.
- Technician removes the camera assembly (camera and chassis assembly) from the customer’s housings and installs the factory aligned/burned-in camera assembly from the exchange unit.
- The original housings maintain serialization for repaired colposcope. The unit is tested and returned to owner.
- The failed Colposcope Sub Assembly is returned to Welch Allyn Medical Division Technical Service Department, State Street, where the camera will be replaced and calibrated. It will be returned to your depot parts inventory.

Hi-Pot and current leakage tests:

When electrical components have been changed, or if there is any reason to believe that the unit will not meet safety specifications for HI-POT and Leakage current, it is advisable to check HI-POT and Leakage current. If the unit fails these tests, replace the faulty component(s) and re-test.

HI-POT Mains to ground specifications.
With the power switch to the “ON” position, the unit must withstand:
1.5KVAC for 1 second.

Leakage current test specifications.
Input voltage: 115 +/- 5 vac 60Hz
Turn the colposcope unit power switch to the “ON” position.
Verify lamp function- lamp is on.
Touch leakage probe of the tester to the following parts of the stands:
-Vertical pole model: Phillips screw on vertical pole (aluminum pole).
-Swing arm model: socket head cap screw at connection of horizontal arm to pole.
The leakage current shall not exceed 100 micro Amperes. (**.0001** Amps)
When testing in 230 volt countries, the unit must still adhere to the 100 micro Ampere limit on leakage current.

Problem Solving

3.1 Troubleshooting

Condition	Check	Action
Power does not come on	Power Cord	Check connections at power supply and wall outlet. Plug the power cord into a wall outlet known to work.
	Fuses	Remove fuse panel and replace blown fuse with T1.00L 250 1A time lag.
	Attachment of unit to handle	Check colposcope unit's alignment with handle.
No image on monitor (Refer to Color Video Monitor Operating Instructions)	Attachment of unit to handle and door to unit.	Make sure lamp access door and handle are properly attached.
	Monitor/other peripheral devices	Make sure power is on for all devices.
	Monitor input selection	Make sure correct input selection is made on the front panel. Make sure Channel "C" is selected.
	Cable connections	Make sure all video cables are connected properly.
Lamp will not light	Lamp Housing	Make sure lamp assembly is installed properly.
	Lamp	Replace lamp.
	Lamp access door	Make sure lamp access door is properly closed.
	Lamp connector loose.	Check socket for tight fit.
Printer does not respond properly to handle buttons. (Refer to Color Video Printer Operating Instructions)	Power cord and printer	Unplug power cord from wall outlet, then plug cord back into outlet. At the same time, turn printer off and then on again.
	Printer	Make sure printer is on and is properly connected.
	Printer not set up properly	Set Dip Switches to 9,600 Baud Rate Make sure correct input selection is selected. Switches 3 & 4 are "On", all others are "Off" Reset printer by turning off then on again. Sony VP 1800
Black and White Image only	Monitor of one video standard with camera of another video standard.	Order correct standards
	Defective "S" Video Cable	Replace with known good cable
	Bent pin at camera, power supply or cable connector.	Replace connector.
	S video cable not plugged in all the way.	Restore good fit.
	Wrong settings on monitor.	Make sure Blue Only is not selected on monitor.
	Rolling picture.	S video cable connector damaged. Have wall outlet checked "properly grounded"

Note: For monitor default settings, refer to the Owners Manual included the monitor.

Disassembly and Repair

4.1 Stand Alone Colposcope Disassembly Sequence

4.2 Reference Photos for Reassembly

4.3 Handle Disassembly

4.4 Pole Clutch Replacement

4.5 Camera Alignment Procedure

4.6 Power Supply

Photo 1:

1.1 Disconnect from Mains.
1.2 Unscrew knob
1.3 Separate camera from handle.

Photo 1

Photo 2:

Lamp area will be hot immediately after lamp operation!!

Slide lamp access door away from the housing and remove it.

Photo 2

Photo 3:

Remove lamp.

Photo 3

Photo 4:
Carefully cut label at gap.

Photo 4

Photo 5:
Remove 4 torx screws using T-15 torx screwdriver.

Photo 5

Photo 6:
Open covers first near lens. Then spread covers apart from other side as in Photo 7.

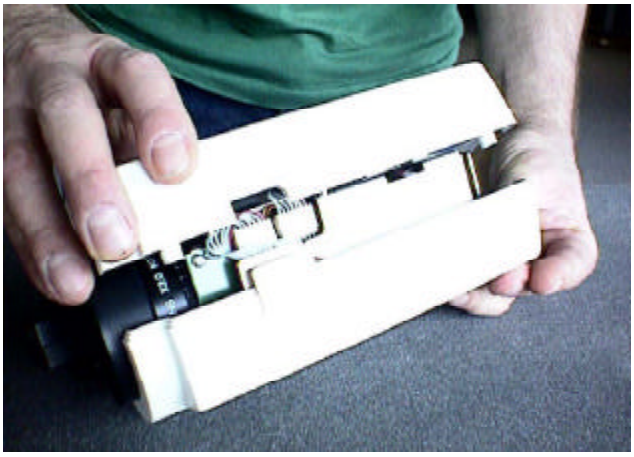


Photo 6

Photo 7:
Open unit up this way to avoid stress on ribbon cables.

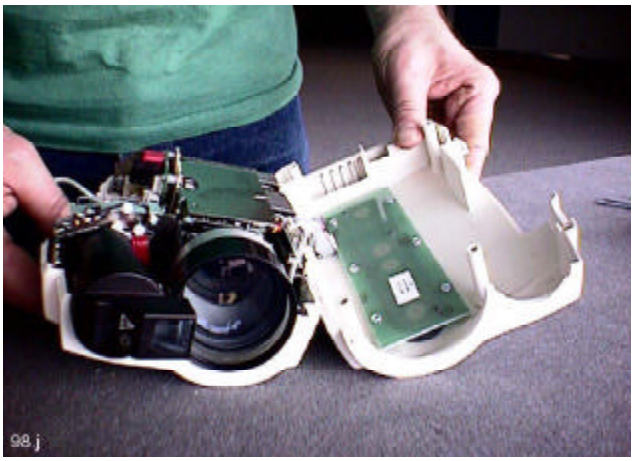


Photo 7

Photo 8:
Disconnect locking connector of left switch assembly. (Left-switch ribbon cable attaches to the logic board rear connector. The Right-switch ribbon cable attaches to the logic board front connector.)

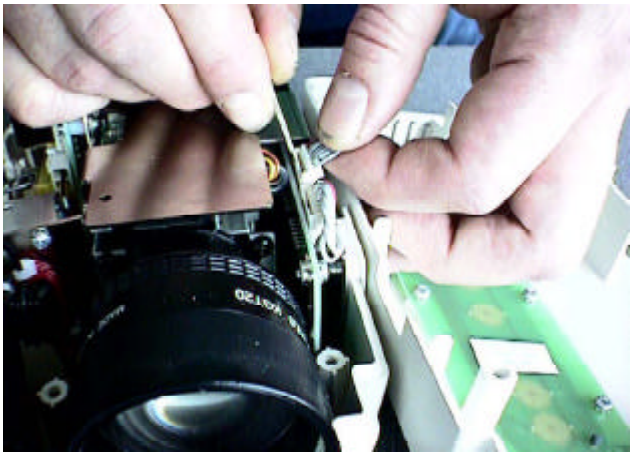


Photo 8

Photo 9:
Gently pull light director from focusing sleeve.

Photo 9

Photo 10:
Unscrew Focusing sleeve from lamp housing.

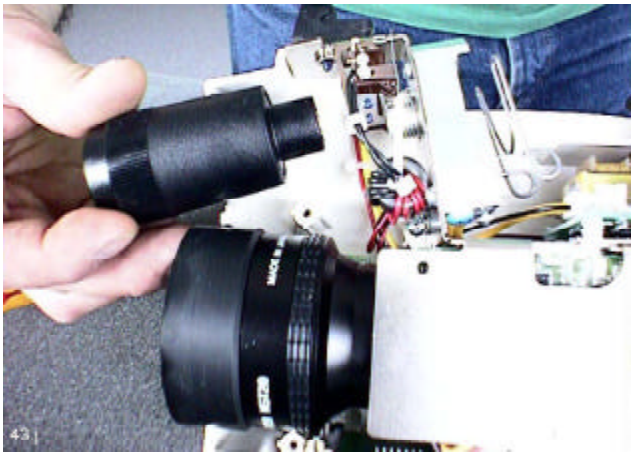


Photo 10

Photo 11:
The glass rod/ferrule assembly may come out with the focusing sleeve.

Photo 11

Photo 12:
Do not lose the UV filter in the end of the brass ferrule.

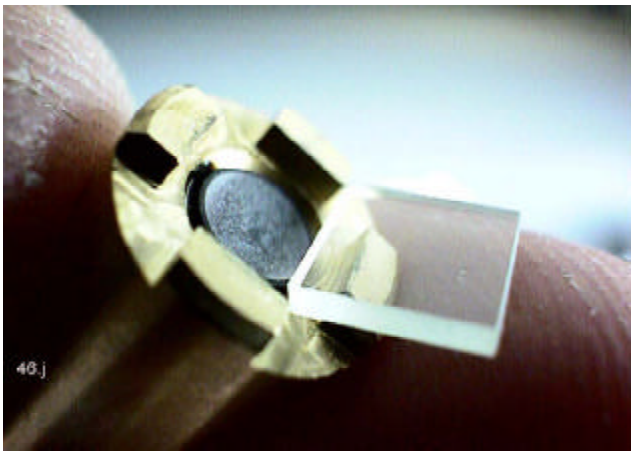


Photo 12

Photo 13:
Note: Replacement focusing sleeves must be pre-focused as shown.
First: Rotate and measure gap.
Second: Apply Loctite 495 around inner sleeve (except in the large rotating slot area) to fix gap measurement shown.

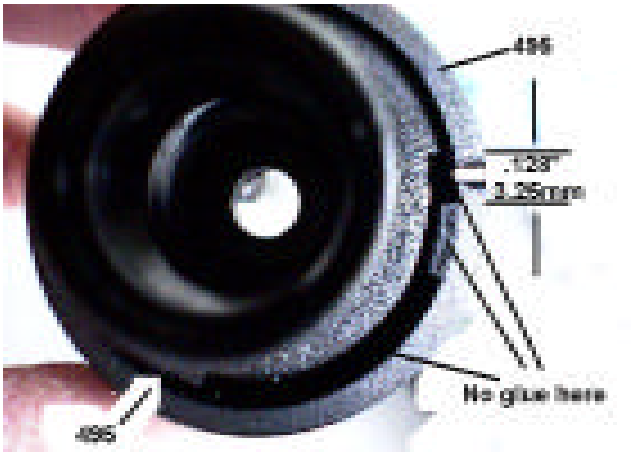


Photo 13

Photo 14:
At this point, the Right Side Control Pad (switch) assembly is accessible. It is held in place by six screws.
The Left Side Control Pad will be accessible once the camera assembly is removed in a later Photo.

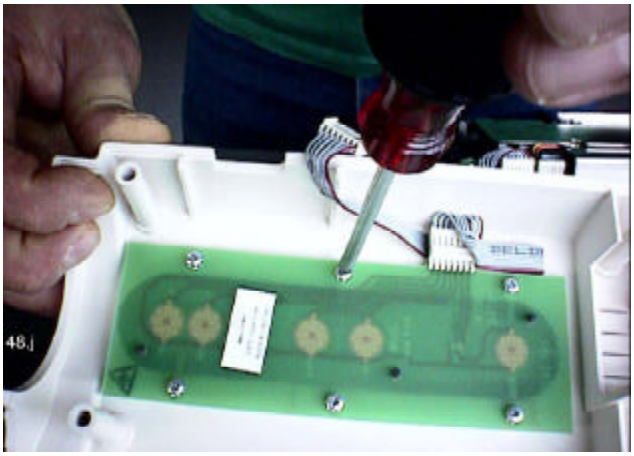


Photo 14

Photo 15:
To convert a vertical pole Colposcope to a Swing Arm Colposcope: Move toe piece to the alternate position.
Heat the screws with the tip of soldering iron to loosen threadlocking glue.

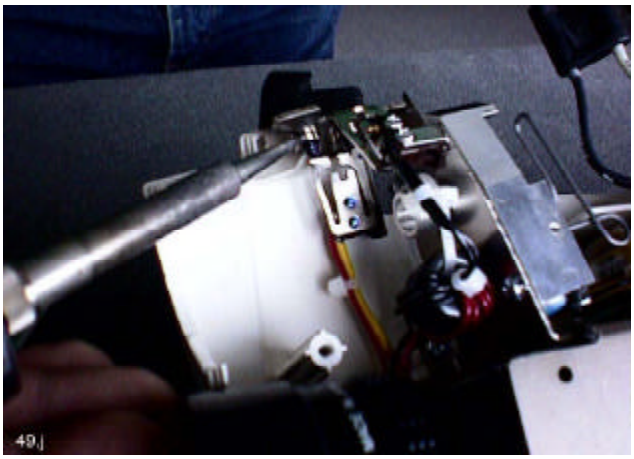


Photo 15

Photo 16 & 17:
Unfasten camera by removing three Torx screws. Two rear screws shown.

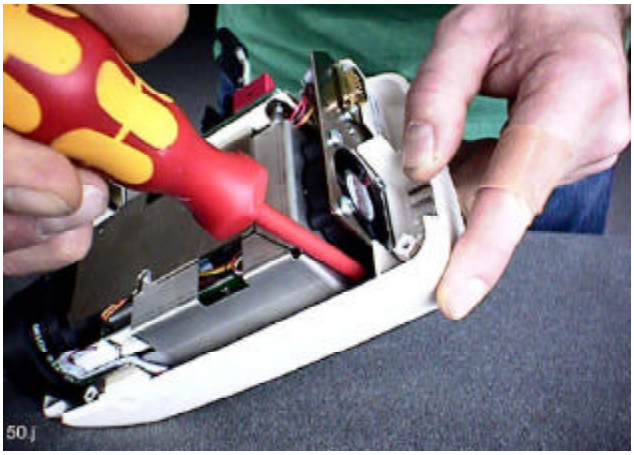


Photo 16

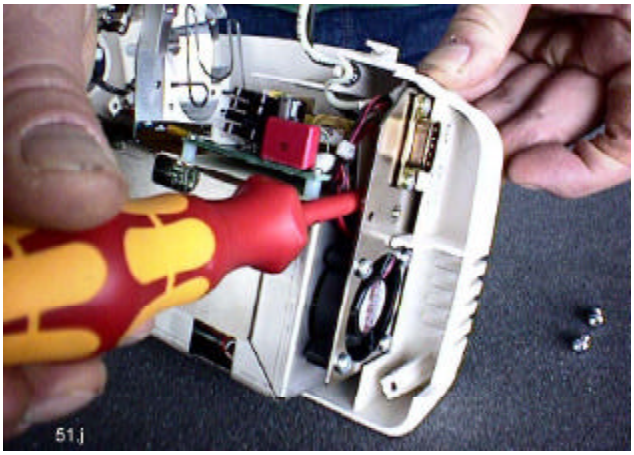


Photo 17

Photo 18:
Remove third screw under ferrite bead.

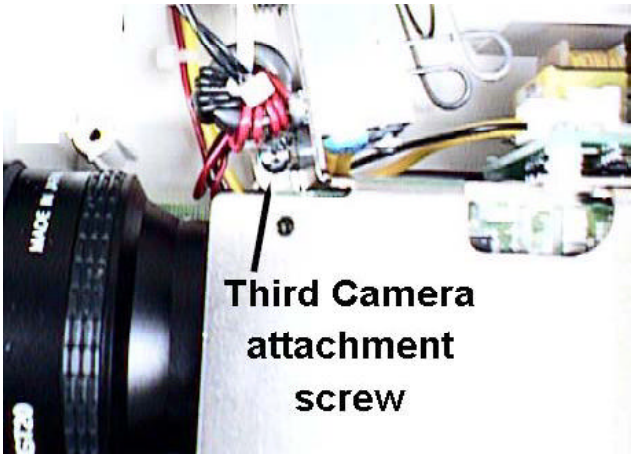


Photo 18

Photo 19:
Before lifting camera out of housing, disconnect the Left Control Pad assembly connector from logic board front connector.

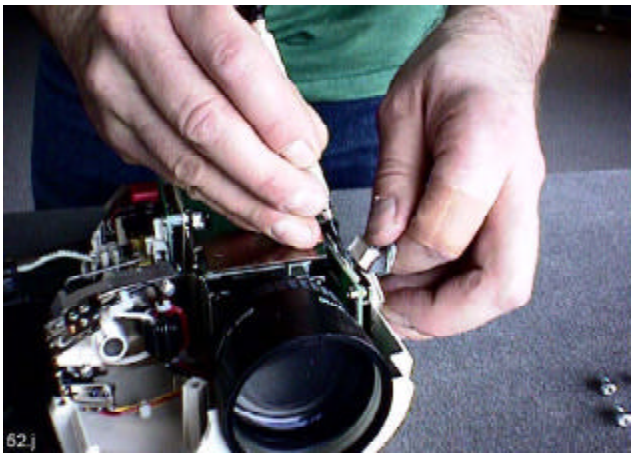


Photo 19

Photo 20:
Lift camera from Left Housing.

Note: the camera wiring harness, consisting of pre-wired: fan, thermal cut out, DB-9 connector, and microswitches, can be replaced now if necessary. See photo 21 below regarding thermal cut out removal.

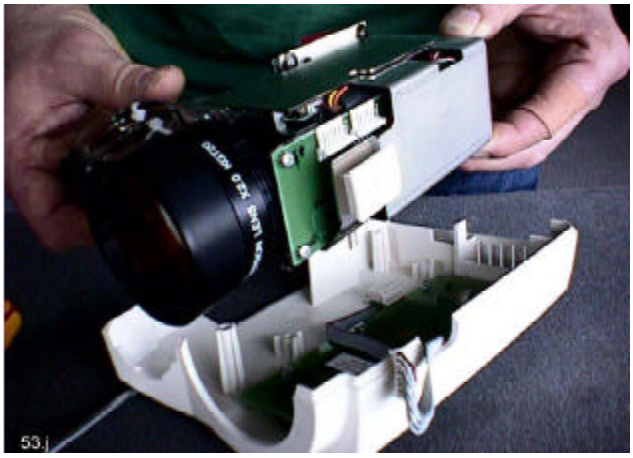


Photo 20

Photo 21:
Important: Do not lose the fiber washer during removal of thermal cut out. This washer prevents the head of the screw from breaking the epoxy on the thermal cut out which would create a circuit from the thermal cut out directly to ground via the screw. This fault will damage the power supply.
During reassembly make sure the fiber washer is properly positioned over the thermal cut out as shown. Use threadlocker Locktite 222 on the screw. Do not overtighten.

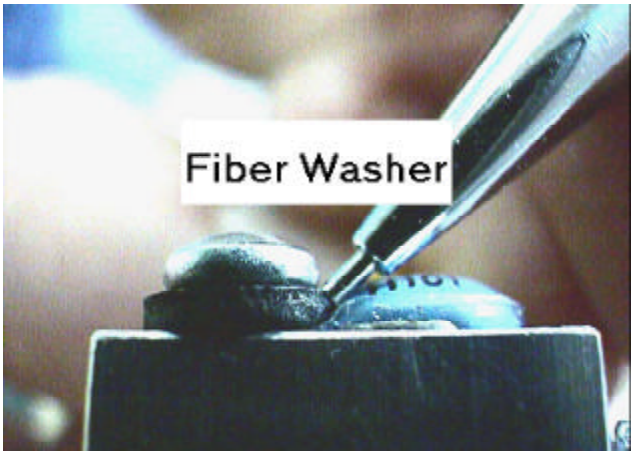


Photo 21

Photo 22:
Remove four screws. Do not lose 4 board spacers.

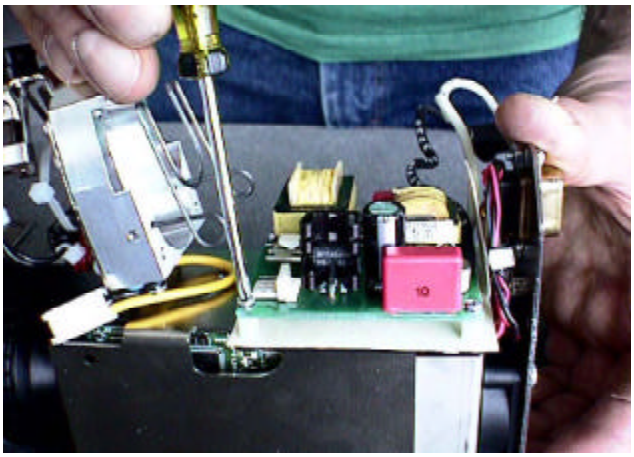


Photo 22

Photo 23:
Remove board, spacers, and insulator.

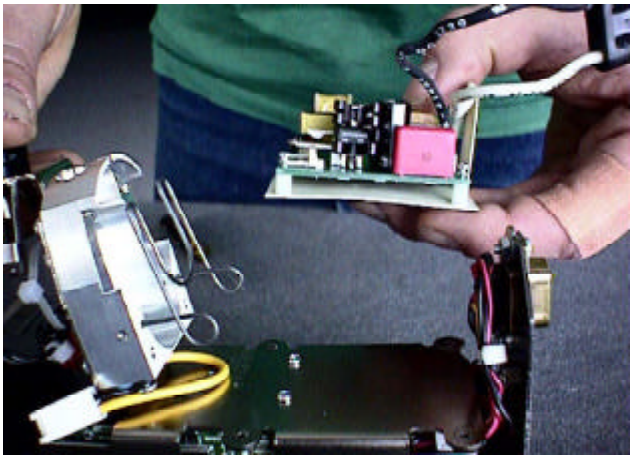


Photo 23

Photo 24:
The lens is accessible when the camera is free of the housing as shown in previous Photo 20. Unscrew lens.

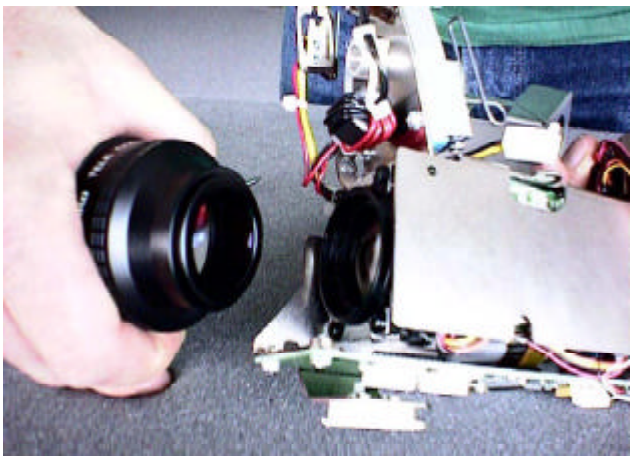


Photo 24

Photo 25:
Optical characteristics are identical for either of the lenses used in production colposcopes to date.

Photo 25

Photo 26:
This lens adapter is required when the lens on the left in Photo 25 is used.

Photo 26

Photo 27:
Both lenses in Photo 25 use the same Achromatic Lens assembly (on left).
It is made up of:
PN880018 lens holder (outer shell)
PN880059 achromatic lens
PN880019-1 Ring, lens (retaining ring)
Tool T-14716 hand tightens the retaining ring.

Photo 27

Photo 28:
For Logic board access, remove two camera shield screws.....

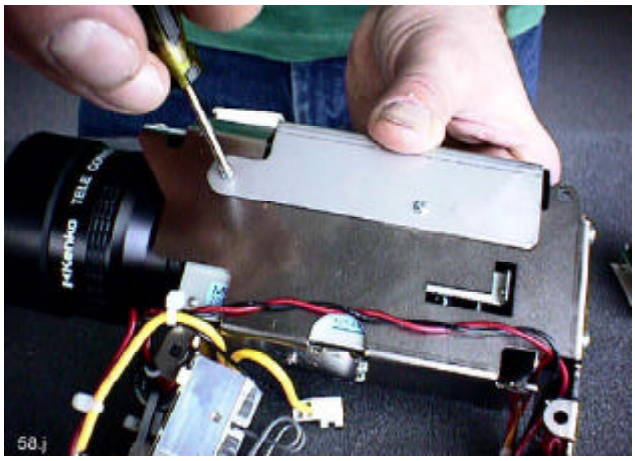


Photo 28

Photo 29:
.....lift camera shield straight up.

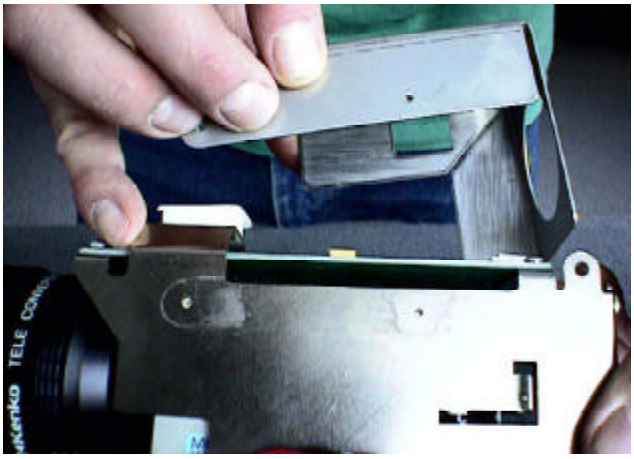


Photo 29

Photo 30:
Logic board is now accessible.
Disconnect connectors.

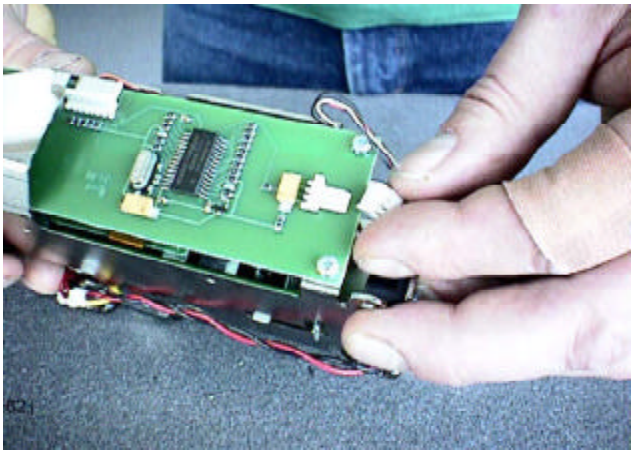


Photo 30

Photo 31:
Remove Logic board.
Camera is now accessible.

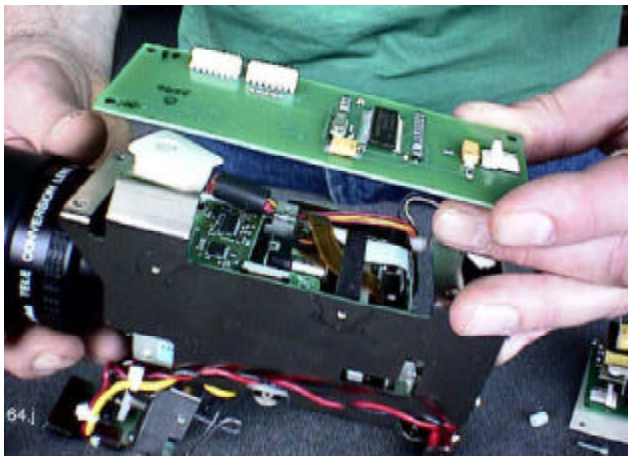


Photo 31

Photo 32:
To remove camera unit:
Disconnect connector with ferrite bead.

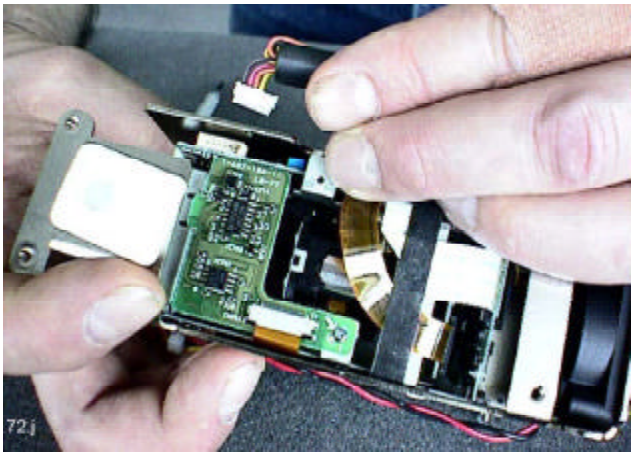


Photo 32

Photo 33:
Remove three camera holding screws.

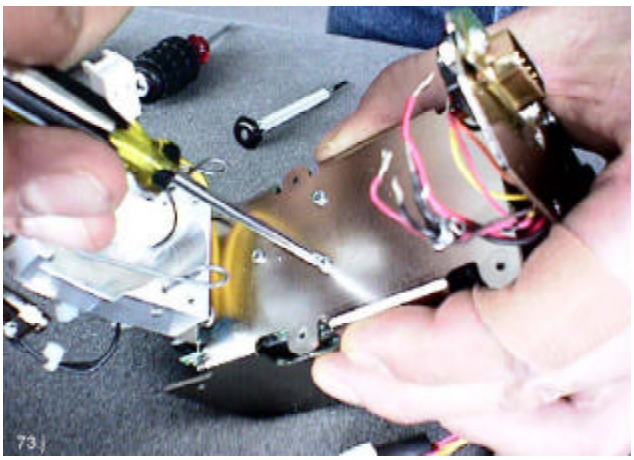


Photo 33

Photo 34:
Disconnect 3-wire connector (foreground).
Disconnect 2-wire connector (background).
NOTE: When reassembling the camera shield (Photo 29) to camera chassis, do not dislodge the 2 wire connector.

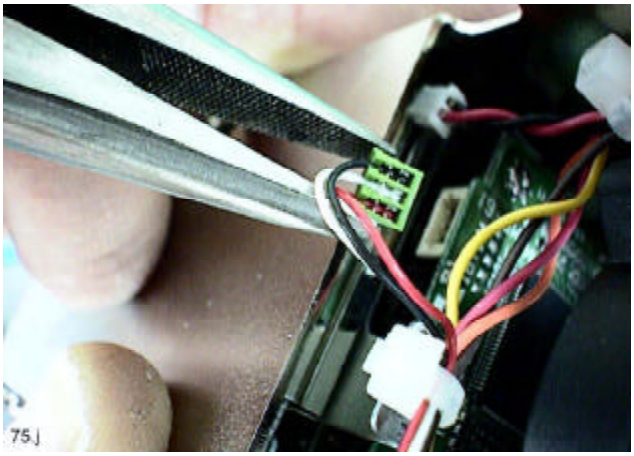


Photo 34

Photo 35:
Press tab (see inset) and hold down.
(attach lens to aid with pulling camera.)

Photo 35 Inset

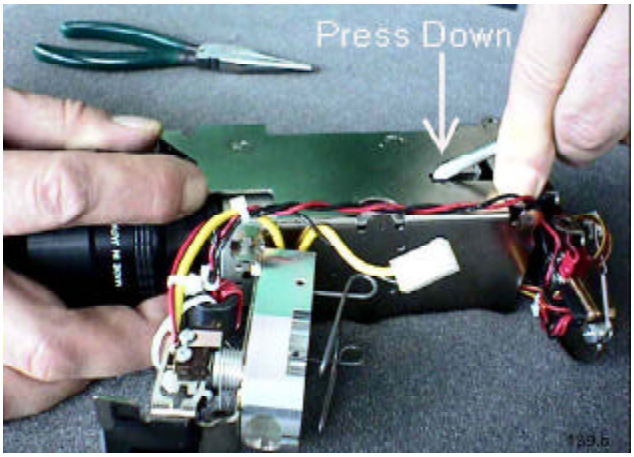


Photo 35

Photo 36:
Gently pull camera from chassis.

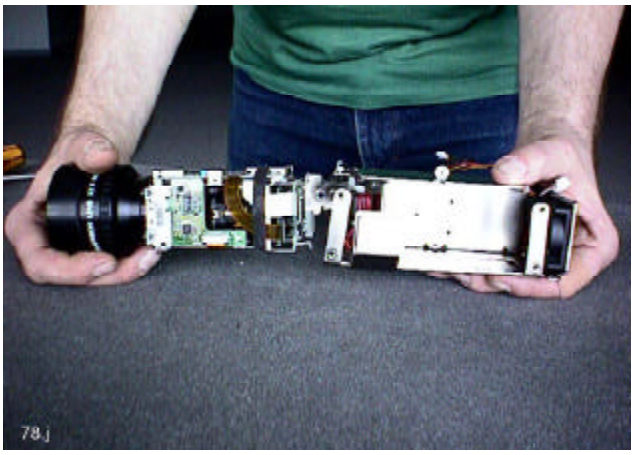


Photo 36

Photo 37:
Colposcope disassembly is complete.

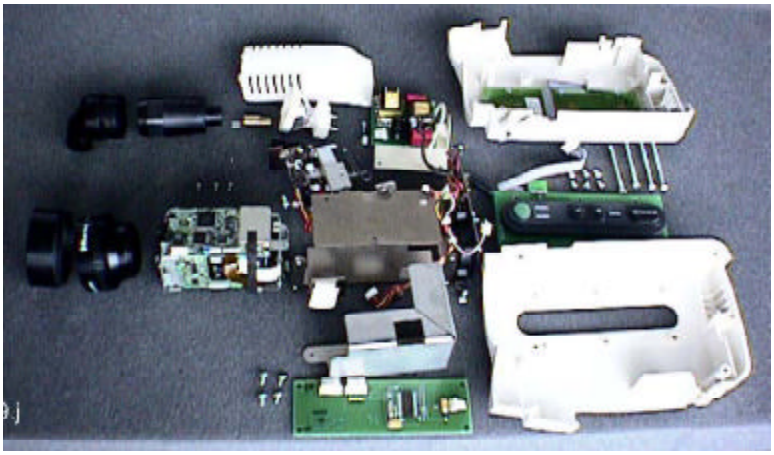


Photo 37

The Colposcope can be reassembled in reverse order. Reference photos are included to assist in reassembly and clearly show critical position and placement of wiring within the colposcope housings.

Reference Photos: Techniques for Reassembly:

Reassembly reference Photo 38:
Camera ribbon cable placement.

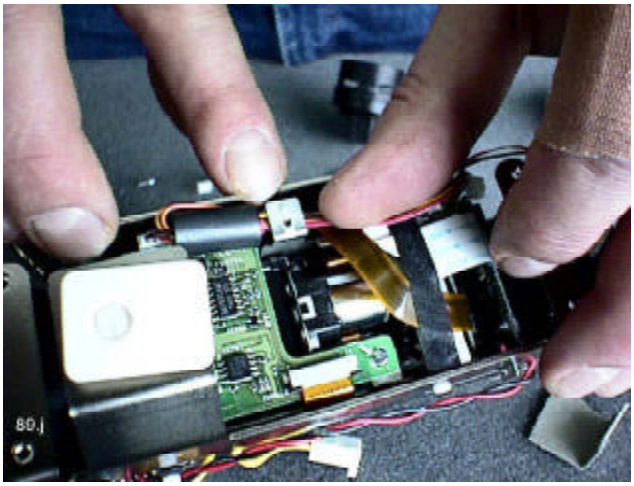


Photo 38

Reassembly reference Photo 39:
Microswitch wiring and ferrite bead.
(focusing sleeve is removed in this photo)

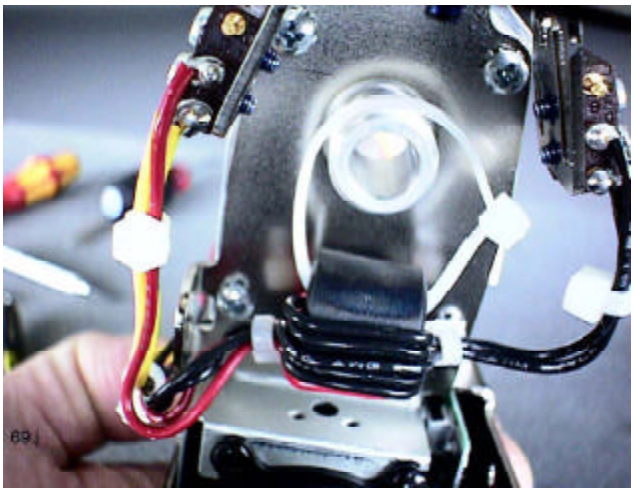


Photo 39

Reassembly reference Photo 40:
This four step process makes it easy to install the ballast board onto the spacers and insulator.
Lay parts out as shown.
Assemble as shown in photos 41 through 43.

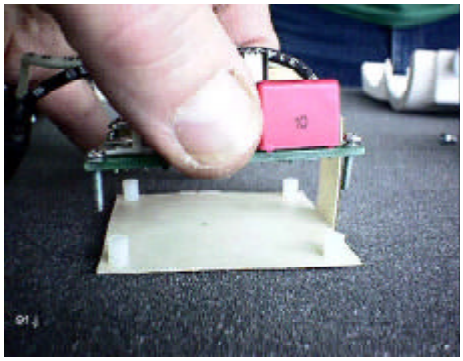


Photo 40

Reassembly reference Photo 41:
Lower ballast board onto spacers and insulator.

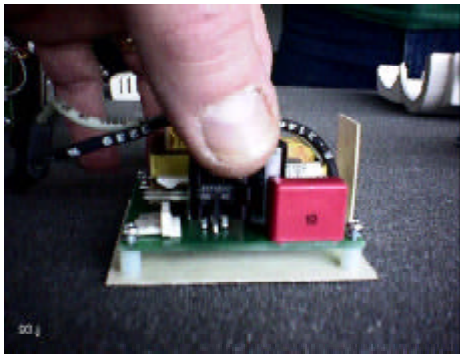


Photo 41

Reassembly reference Photo 42:
Grasp insulator and lift parts up.

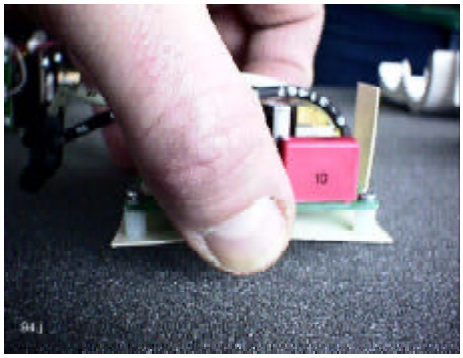


Photo 42

Reassembly reference Photo 43:
Lower parts onto chassis and tighten screws.

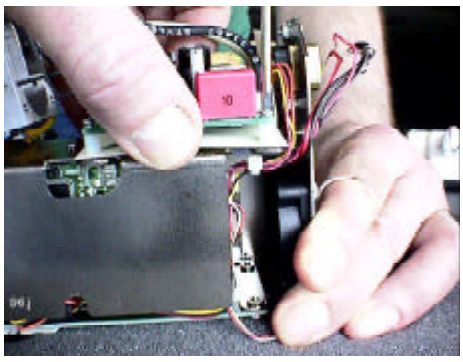


Photo 43

Reassembly reference Photo 44:
Make sure the camera shield is placed underneath the camera chassis during reassembly. Do not dislodge 2 wire connector (see Photo 34)! If it comes loose all video will be lost (black screen).

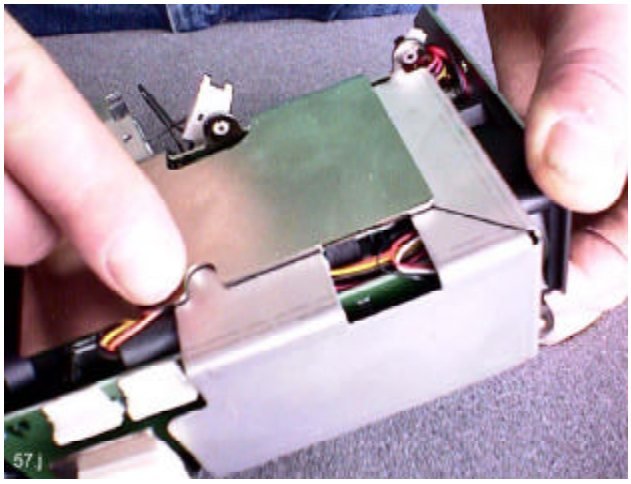


Photo 44

Reassembly reference Photo 45:
Wire path for lamp socket.

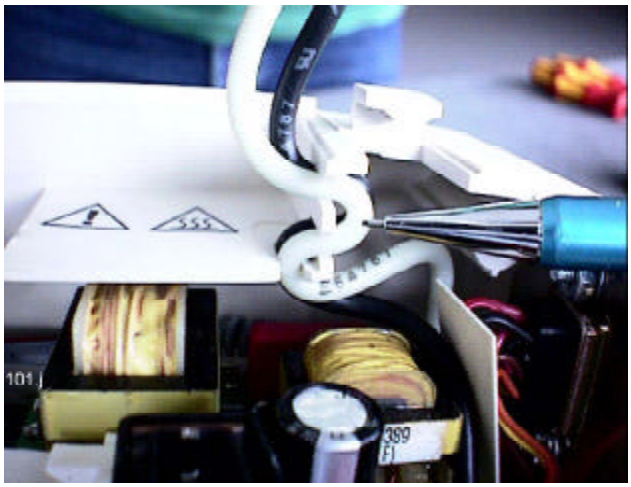


Photo 45

Reassembly reference Photo 46:
Right housing: Ribbon cable fold and correct path.

Photo 46

Photo 47:
Carefully cut old cover and discard

Photo 47

Photo 48:
Remove: 4 Torx screws, 2 Phillips screws.

Photo 48

Photo 49:
Open handle carefully. Switches are now accessible.

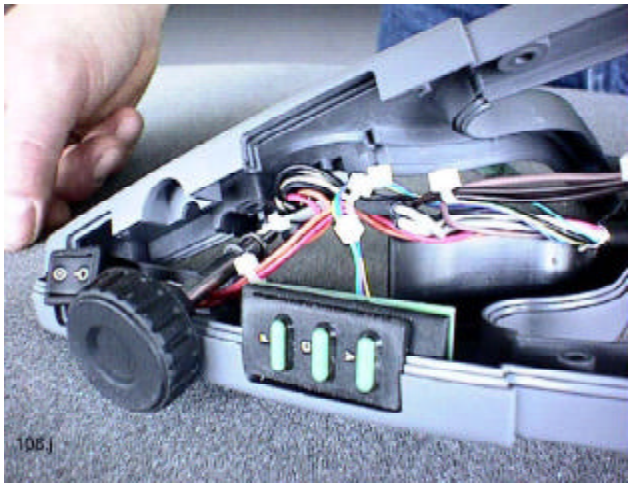


Photo 49

Photos 50/51:
Vertical Pole Clutch Removal/ Replacement:
If height adjustment does not hold or is jammed, replace the clutch.
Remove old clutch with explorer or suitable tool.

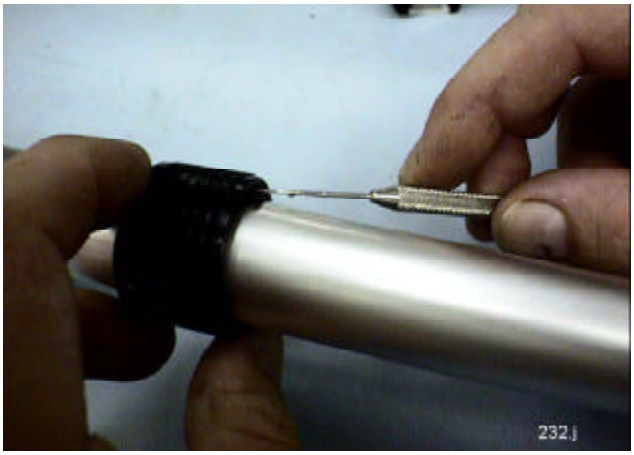


Photo 50

Photo 51:
Do not scratch pole!

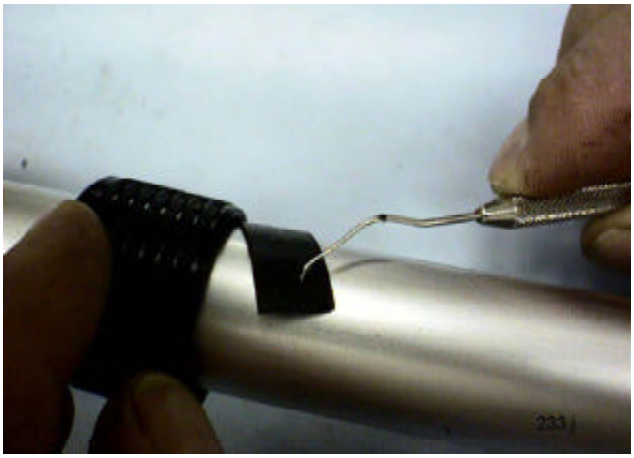


Photo 51

Photo 52:
Remove flashing (if any) from long edges of clutch material by edge sanding.
Put new clutch into ring.

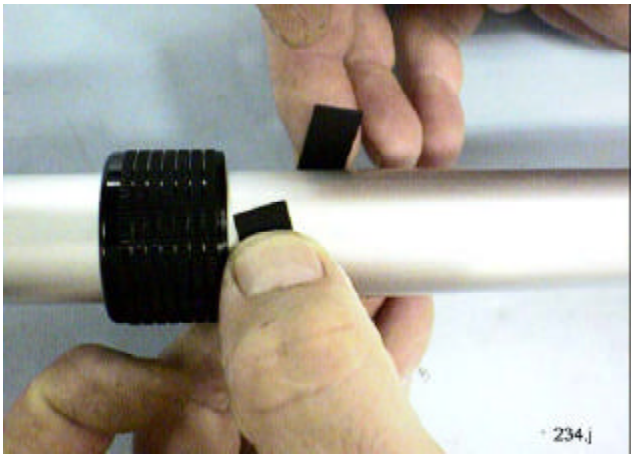


Photo 52

Camera Alignment Procedure:

Photo 53:
Replacement camera units should be checked before reassembly. The fixtures shown are available from Welch Allyn.

53.1 Place Camera/Frame assembly overposts of Camera Alignment Fixture in Photo 53 inset. **Do not over-tighten knob!**

Photo 53i

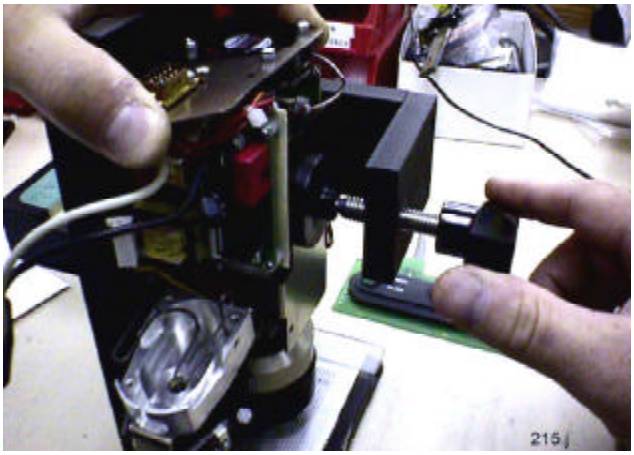


Photo 53

53.2 Set the Sony Trinitron Color Video Monitor (T-14891) as follows: contrast - detent position, underscan setting, aperture-center position, volume - n/a, bright - detent position, chroma-detent position, C/SDI - on position, all other - off position

53.3 Connect the S-video cord from Camera Test Power Supply to the monitor.

Photo 54:
Connect the Test Power Supply (T-14891) D9 Connector to the test Camera Assembly
Allow approx. 10 seconds for the camera unit to stabilize and focus. (the camera will stabilize at zoom (-))

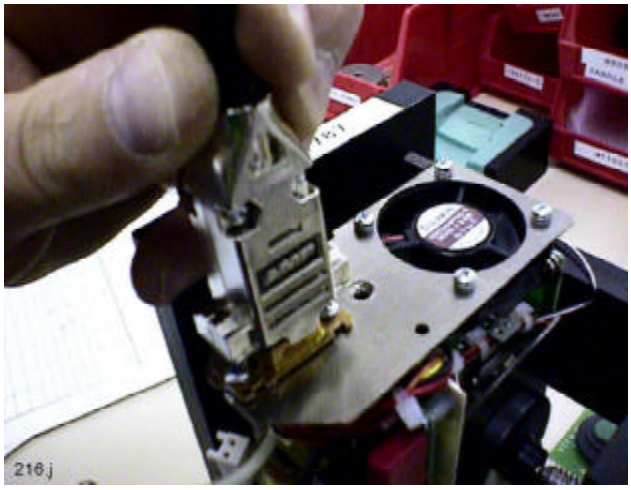


Photo 54

Photo 55:
Plug the test keypad (see inset photo 55i) into one of the two keypad connectors on the logic board as shown.

Photo 55i

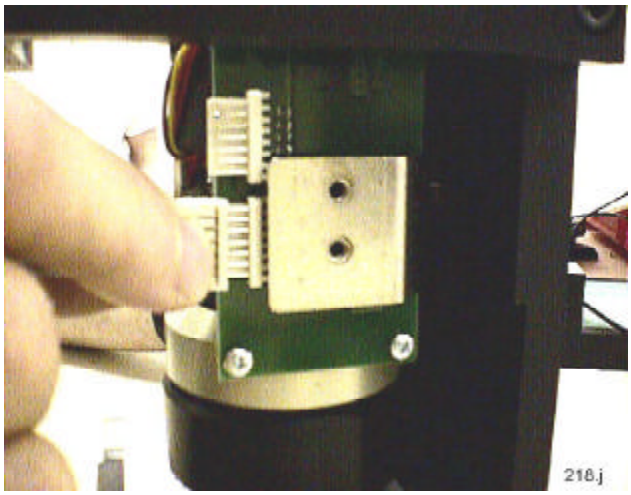


Photo 55

Photo 56:

56.1 Use the focus button to adjust the focus so that the achromat lens ring (black) and the alignment grid are both in crisp focus.

56.2 If image appears centered on the monitor and symmetrical as shown in photo 56 (9 boxes on each side), no adjustment of the camera is necessary. ***See explanation below***.

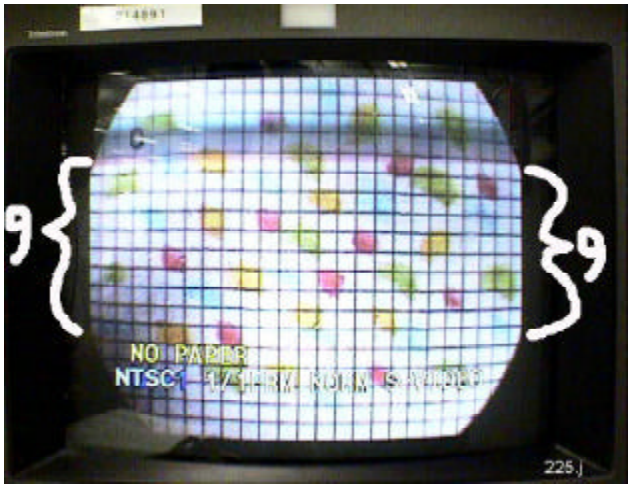


Photo 56

DETERMINING IF ADJUSTMENT IS NECESSARY:

If the image has more boxes on one side than the other, the vignetting might not meet the specification ratio of “Less than 1:2.25”. To determine the ratio of your camera unit, count the number of boxes on each side of the image and divide the greater number by the smaller number. For example, Photo 56 shows 9 grid boxes on the left and right sides. This is a ratio of 1:1 which meets the specification. Our example requires no “vignetting” adjustment.

If the right side had 3 boxes and the left side had 14 boxes, (14 divided by 3) the ratio would be 1:4.666 which does not meet specifications. LEFT RIGHT vignetting must be adjusted. **Follow procedure starting at Photo 57 to adjust LEFT RIGHT vignetting.** There is no UP DOWN vignetting adjustment. If the camera can not be brought into specifications, it is defective and must not be used.

Photo 57:
Disconnect the 3 wire connector (camera to Logic board).

Photo 57

Photo 58:

58.1 Attach the RM-95 remote commander to the 3 pin connector on Logic board.

58.2 Set the remote commander Norm-adj button to the adj. position. (button located in the upper left corner)

58.3 The RM - 95 will display some value as soon as you connect it to the camera. In this example, (Photo 58) the RM-95 displays a Page "F", a Data value "3E", and an address "0c". It looks like this: "F:3E:0c"

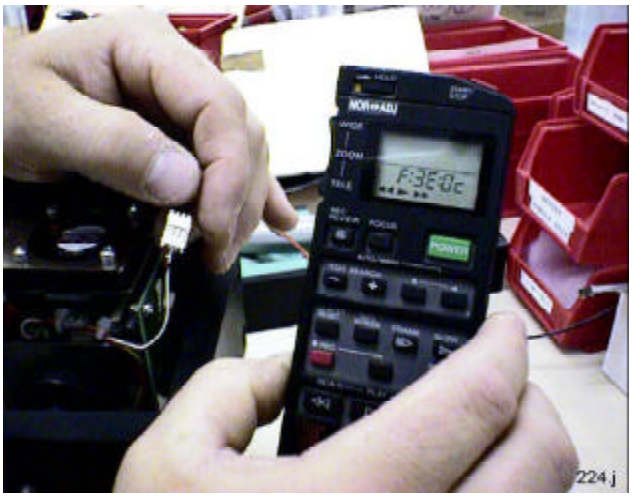


Photo 58

58.4 **You must re-set it as follows before making adjustments:**
Use edit search (+) button to set "page" to "01"

58.5 Press the "play" button to set "data" to "01" (Use "stop" button to count down if you go past "01")

58.6 Use edit search (+) button to set "page" to "0D"

58.7 Use the "FF" button to set the "address" to "04"

58.8 **Record the initial/original camera data settings.**

58.9 Use the **"PLAY"** button to increase data value and the **"STOP"** button to decrease data value while watching the picture move. **Find the optimum data value which centers the image horizontally using one or both of the following:**

58.10 Adjust the white area along the left/right side of the monitor to be as close to equal in size and symmetrical as possible.

58.11 Calculate the white ratio (length of the white area)
Example: LSW = 12 divisions, RSH = 16 divisions, 16/12 = 1.34

58.12 Compare the adjusted value to the acceptable value range of 1: 2.25

58.13 If the adjusted value is acceptable - save the data **PRESS "ORANGE PAUSE" button.** If the value is not acceptable - readjust if possible, otherwise do not use the camera unit. Record the data value displayed.

58.14 Disconnect the RM-95 unit from the camera and reconnect the camera harness cable to the camera board.

Calibration (vignetting adjustment) is complete.

Power Supply Repair

Photo 59:
Remove four screws on the back of the power supply.

Note: The pole itself is not repairable. If the internal cord is defective, replace the pole assembly.

Photo 59

Photo 60:
Replace the Svideo Jack if defective or if it has all green wires. Unscrew jack and disconnect Molex connector.

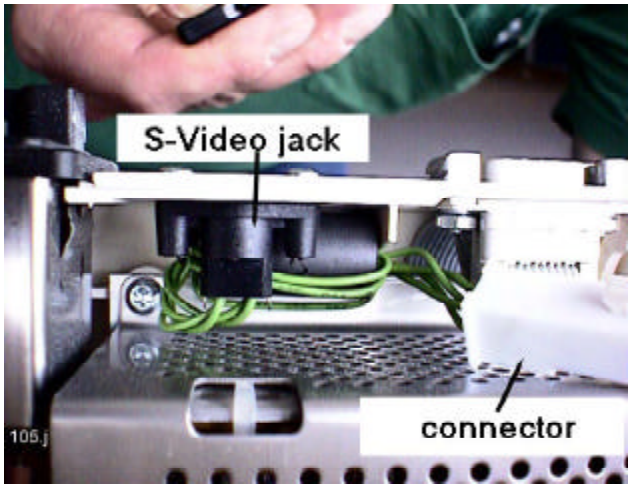


Photo 60

Repair Parts Reference Drawings and Interconnect Diagrams

5.1 Stand Alone Colposcope Repair Parts and Drawing References. 5 pgs. (Recommended Inventory per ten units in your customer base is column “Inv./10”.)

5.1 Drawings

5.3 Interconnect Diagrams

Drawing Number	Drawing Description
D-8800198	Interconnect Diagram, Vert.
D-8900058	Interconnect Diagram, Swing Arm
880000	Colposcope Vert. Dom
880039	Colposcope Vert. UK, AUS, EUR
880045	Vertical Pole Assembly
880080	Colposcope Sub Assembly PAL & NTSC
880091	Assembly Wire Harness
880140	Colp & Vert Pole Assembly PAL & NTSC
890015	Arm Assembly
890018	Assembly Pole and Swing Arm
890038	Colp. & Swing Arm - PAL
890055	Pole Swing Arm Packaged
890056	Colp and Swing Arm NTSC
890057	Colp Swing Arm AUS, EUR, UK

Stand Alone Colposcope Repair Parts and Drawing Reference

Part #	Drawing#	Page	Bubble#	Part Description	Inv. /10	88021	88022	88024	88026	89021	89022	89024	89026	89050	49555	89555	
098100	880080	2	3	LAMP ASSY (20W)	5	✔	✔	✔	✔	✔	✔	✔	✔				
106100-11	880080	2	5	PHPS 4-40 X.312	6	✔	✔	✔	✔	✔	✔	✔	✔				
106100-17	880080	2	4	PHPS 2-56 X.312	6	✔	✔	✔	✔	✔	✔	✔	✔				
106101-1	880045	2	4	RETAINING RING	6	✔	✔	✔	✔	✔	✔	✔	✔				
106101-19	880045	2	5	LOCK RING	6	✔	✔	✔	✔								
106102-21	880045	2	6	FHPS #8-32 X .375	6	✔	✔	✔	✔	✔	✔	✔	✔	✔			
106102-22	880045	2	7	#2-56 FHPS (BLK) X .250	6	✔	✔	✔	✔	✔	✔	✔	✔				
106102-24	880045	2	8	6-32 X .250	6	✔	✔	✔	✔	✔	✔	✔	✔				
106102-26	880140	1	1	6-32 X .75	6	✔	✔	✔	✔	✔	✔		✔				
106102-4	880140	1	2	FHPS 6-32 X .375 LG	6	✔	✔	✔	✔	✔	✔	✔	✔				
106102-7	880045	2,3	9	FLAT HEAD SCREW	6	✔	✔	✔	✔								
106103-11				THERMAL WASHER	6				✔								
106103-21	880045	3	10	WASHER	6	✔	✔	✔	✔					✔			
106103-28	880045	2	11	WASHER, PIVOT	6	✔	✔	✔	✔	✔	✔	✔	✔				
106103-34	880045	2	12	FLAT WASHER	6	✔	✔	✔	✔	✔	✔	✔	✔				
106103-35	880045	3	13	WASHER, PIVOT	6	✔	✔	✔		✔	✔	✔	✔				
106103-42	880080	2	64	WASHER, FLAT .120 X .250 X .035	6	✔	✔	✔	✔	✔	✔	✔	✔				
106105-3	880080	2	62	#4 LOCKWASHER, HEL	6	✔	✔	✔	✔					✔			
106106-2	880080	2	7	#4 INTRNL TOOTH LOCKWASHER	6	✔	✔	✔	✔	✔	✔	✔	✔				
106106-4	890015	3	9	EXTRNL LOCKWASHER	6					✔	✔	✔	✔				
106108-26	880045	3	14	O-RING	6	✔	✔	✔	✔								
106108-27				O-RING	6					✔	✔	✔	✔				
106108-3	880045	3	15	O-RING	6	✔	✔	✔		✔	✔	✔	✔				
106109-12	890015	3	11	HEX NUT	6					✔	✔	✔	✔				
106113-19	880045	2	17	SET SCREW, 8-32 X.187 CONE	12	✔	✔	✔	✔	✔	✔	✔	✔				
106113-6	880080	2	9	#4-40 SOCKET SET SCREW	12	✔	✔	✔	✔	✔	✔	✔	✔				
106115-10	890015	2	13	SPRING, COMPRESSION	6					✔	✔	✔	✔				
106119-18	890018	1	4	8-32 X .375 LG SHCS-SS	12									✔			
106119-24				SHCS 4-40 X .500	12					✔	✔	✔	✔				
106120-5	880140	1	3	6-32 X.375 FLSTR HD PLASTIC	6	✔	✔	✔	✔	✔	✔	✔	✔				
106120-6	880045	2	18	6-32 X.250 FILL; HD-BLK	6	✔	✔	✔	✔	✔	✔	✔	✔				
106120-7	880045	3	19	#4-40 X.375 FILHD PHPS	6	✔	✔	✔	✔					✔			
106121-18	880045	2,3	20	.062 SHRINK TUBING	6	✔	✔	✔	✔	✔	✔	✔	✔	✔			
106121-19	880045	2	21	.187 SHRINK TUBING	6	✔	✔	✔	✔	✔	✔	✔	✔	✔			
106123-18	880080	2	11	SCREW M2 X 6MM	6	✔	✔	✔	✔	✔	✔	✔	✔				
106124-18	880045	3	22	#8 X 1.25 SELF TAPPING SCREW	6	✔	✔	✔	✔					✔			
106124-21				#4X.375 PLASTITE SCREW	6				✔								
106124-26	880080	1	12	#6 X 2.00 PLASTITE TORX	6	✔	✔	✔	✔	✔	✔	✔	✔				
106124-27	880045	1,3	23	#6 X .375 PLASTITE TORX	6	✔	✔	✔	✔	✔	✔	✔	✔	✔			
106126-21	880045	2	24	DOWEL PIN .062 X .375	6	✔	✔	✔		✔	✔	✔	✔				
106126-24	880045	2	25	DOWEL PIN .094 X.312	6	✔	✔	✔	✔								
106126-25				PIN, DETENT	6					✔	✔	✔	✔				

Stand Alone Colposcope Repair Parts and Drawing Reference

Part #	Drawing#	Page	Bubble#	Part Description	Inv. /10	88021	88022	88024	88026	89021	89022	89024	89026	89050	49555	89555
106126-26	880045	2	26	DOWEL PIN	6	✔	✔	✔	✔	✔	✔	✔				
106128-8	880080	2	15	1/4 SPACER	6	✔	✔	✔	✔	✔	✔	✔	✔			
106129-8	880045	3	27	RING TERMINAL	12	✔	✔	✔	✔							
106140-2	880045	3	28	4-40 W/EXT WASHER	6	✔	✔	✔	✔	✔	✔	✔	✔	✔		
106140-3				4-40 X .25 W/EXT WASHER	6	✔	✔	✔	✔	✔	✔	✔	✔	✔		
106148-1	880080	2	17	2-56 X .437 W/INT WASHER	6	✔	✔	✔	✔	✔	✔	✔	✔			
236614-1	880045	2	96	WIRE, 20AWG,BROWN	6	✔	✔	✔	✔							
23670-3117				FUSE	24			✔								
236729-6	880045	3	94	WIRE, 24AWG,BROWN	6	✔	✔	✔	✔							
236729-7	880045	3	95	WIRE, 24AWG	6	✔	✔	✔	✔							
265007	880045	3	29	2-56 X 1/8 LG SET SCREW	6	✔	✔	✔	✔					✔		
441113	880045	3	31	MOUNT SPACER	1	✔	✔	✔	✔					✔		
483017	880045	3	32	PHPS 6-32 X 5/16	2	✔	✔	✔	✔					✔		
485642	890060	1	1	CASTER WITH BRAKE	3										✔	✔
485642-1	890060	1	1	CASTER WITHOUT BRAKE	3										✔	✔
488307-9	880045	3	97	FUSE-1000 MA	24	✔	✔		✔					✔		
488400-501	880080	2,3	18	FOCUSING SLEEVE ASS'Y	2	✔	✔	✔	✔	✔	✔	✔	✔			
495075	880080	2	19	BALLAST SIDE CONN ASSY C12A003	4	✔	✔	✔	✔	✔	✔	✔	✔			
495734	495555	1		CARTON INSERT	1										✔	
745070	880045	2	33	CLOSED END CONNECTOR	12	✔	✔	✔	✔							
745150	880045	3	34	STRAIN RELIEF	4	✔	✔	✔	✔					✔		
761076-0	880000	1	4	POWER CORD, DETACH.(DOM/JAPAN)	4	✔				✔						
761076-2	890057	1	2	POWER CORD-DETCHBL (EUROPEAN)	4		✔				✔					
761076-4	890057	1	2	POWER CORD-DETCHBL(U.K)	4			✔				✔				
761076-6	890039	1	2	POWER CORD DETACH. (AUSTRALIA)	4				✔				✔			
761077-1	880045	2	35	TIE WRAP	24	✔	✔	✔	✔	✔	✔	✔	✔	✔		
785012-1	880045	3	36	SELF TAPPING SCREW .37	4	✔	✔	✔	✔					✔		
790043	880045	3	37	4-40 X .250 HEX NUT	6	✔	✔	✔	✔	✔	✔	✔	✔	✔		
880006				PIVOT, PITCH	2						✔	✔	✔			
880006-1	880045	2	42	PIVOT, PITCH FINISHED	6	✔	✔	✔	✔	✔	✔	✔	✔			
880007-1	880045	2	43	HUB, POWDER COATED	2	✔	✔	✔	✔	✔	✔	✔	✔			
880008	880045	2	44	COLLAR, FRICTION	6	✔	✔	✔	✔	✔	✔	✔	✔			
880009-4	890045	2	45	MOUNT, CLIP, PAINTED	2	✔	✔	✔	✔	✔	✔	✔	✔			
880010	880045	2	46	SHAFT, PITCH BRAKE	2	✔	✔	✔	✔	✔	✔	✔	✔			
880011	880045	2	47	BRAKE PAD	4	✔	✔	✔	✔	✔	✔	✔	✔			
880012	880045	2	48	BRAKE, STATIONARY	4	✔	✔	✔	✔	✔	✔	✔	✔			
880013	880045	2	49	SLEEVE, BRAKE	6	✔	✔	✔	✔	✔	✔	✔	✔			
880015-1	880045	2	50	SLEEVE, HUB FINISHED	2	✔	✔	✔	✔	✔	✔	✔	✔			
880016-1	880045	2	51	SHAFT, POWDER COATED	1	✔	✔	✔	✔							
880018	880080	2,3	22	LENS HOLDER	2	✔	✔	✔	✔	✔	✔	✔	✔			
880019				RING, LENS	1	✔	✔	✔	✔							
880019-1	880080	2,3	23	RING, LENS FINISHED	1	✔	✔	✔	✔	✔	✔	✔	✔			

Stand Alone Colposcope Repair Parts and Drawing Reference

Part #	Drawing#	Page	Bubble#	Part Description	Inv. /10	88021	88022	88024	88026	89021	89022	89024	89026	89050	49555	89555
880021	880045	3	52	PWR SUPPLY MOUNT W/PEM STNDOFF	0.0	✔	✔	✔	✔					✔		
880022	880045	2	53	SHAFT, COLP ATTACHMENT	0.0	✔	✔	✔	✔	✔	✔	✔	✔			
880023	890019	2	19	STOP, STAND, ROTATION	0.0									✔		
880023-1	880045	3	54	STOP, BLK ANODIZED	1	✔	✔	✔	✔							
880028	880080	2,3	24	FERRULE, GLASS ROD	1	✔	✔	✔	✔	✔	✔	✔	✔			
880029	880140	1	4	TOE, COLP	4	✔	✔	✔	✔	✔	✔	✔	✔			
880030	880080	2	25	LAMP MOUNT	0.0	✔	✔	✔	✔	✔	✔	✔	✔			
880031	880045	3	59	POWER SUPPLY 40 WATT	2	✔	✔	✔	✔					✔		
880034	880045	3	60	WIRE HARNESS, RECPT TO PWR SUPP	1	✔	✔	✔	✔					✔		
880041-1	880045	2	62	COLLAR, BLK ANODIZE	1	✔	✔	✔	✔							
880042	880045	2	63	CLUTCH, NYLON	6	✔	✔	✔	✔							
880045-501	880140	1	5	VERTICAL POLE ASSY	0.0	✔	✔	✔	✔							
880046	880045	2	64	KNOB W/CAP	1	✔	✔	✔	✔	✔	✔	✔	✔			
880049	880045	1,2,3	65	ON/OFF SWITCH	2	✔	✔	✔	✔							
880051	880045	2	66	CONNECTOR, D9 FEMALE	1	✔	✔	✔	✔							
880055	880080	2	26	FRAME	0.0	✔	✔	✔	✔	✔	✔	✔	✔			
880057	880080	2	27	CAMERA (NTSC)	0.0	✔				✔						
880057-1	880080	2	27	CAMERA (PAL)	0.0		✔	✔	✔		✔	✔	✔			
880058	880080	2	28	2X CONVERTER	1	✔	✔	✔	✔	✔	✔	✔	✔			
880059	880080	2,3	29	ACHROMAT LENS	1	✔	✔	✔	✔	✔	✔	✔	✔			
880060	880080	2,3	32	GLASS ROD	1	✔	✔	✔	✔	✔	✔	✔	✔			
880061	880080	2	33	LAMP SPRING	4	✔	✔	✔	✔	✔	✔	✔	✔			
880062	880080	2	34	21W BALLAST (JR43205119-01)	4	✔	✔	✔	✔	✔	✔	✔	✔			
880064	880080	2	35	INSULATOR, BALLAST	4	✔	✔	✔	✔	✔	✔	✔	✔			
880068-501	880080	2	36	LOGIC BOARD	2	✔	✔	✔	✔	✔	✔	✔	✔			
880070	880140	1	6	TOE CAP	2	✔	✔	✔	✔	✔	✔	✔	✔			
880073-1	880080	3	37	HOUSING, LEFT PRINTED	0.0	✔	✔	✔	✔	✔	✔	✔				
880074-1	880080	3	38	HOUSING, RIGHT PRINTED	0.0	✔	✔	✔	✔	✔	✔	✔	✔			
880075-503	880080	3	39	LEFT CONTROL PAD ASSY	1	✔	✔	✔	✔	✔		✔	✔			
880075-504	880080	3	40	RIGHT CONTROL PAD ASSY	1	✔	✔	✔	✔	✔	✔	✔	✔			
880079	880080	3	41	LAMP DOOR	3	✔	✔	✔	✔	✔	✔	✔	✔			
880080-501	880000	1	8	COLPOSCOPE SUB ASSY (NTSC)	2	✔				✔						
880080-502	880140	1	7	COLPOSCOPE SUB ASSY (PAL)	2		✔	✔	✔		✔	✔	✔			
880083	880080	2,3	42	UV FILTER	4	✔	✔	✔	✔	✔	✔	✔	✔			
880084	880045	2	67	KNOB, COLP ATTACHMENT	2	✔	✔	✔	✔	✔	✔	✔	✔			
880086	880045	2	68	SHAFT, YAW BRAKE	1	✔	✔	✔	✔	✔	✔	✔	✔			
880087-1	880045	3	69	FLANGE, FINISHED	2	✔	✔	✔	✔							
880089	880080	3	43	WIRE HARNESS RT CONTROL PAD	1	✔	✔	✔	✔	✔	✔	✔	✔			
880090	880080	3	44	WIRE HARNESS, LEFT CONTROL	1	✔	✔	✔	✔	✔	✔	✔	✔			
880091	880080	2	45	WIRE HARNESS, CAMERA	1	✔	✔	✔	✔	✔	✔	✔	✔			
880094	880045	1	70	GRIP	6	✔	✔	✔	✔	✔	✔	✔	✔			
880099	880045	3	71	IRC POWER ENTRY MODULE	1	✔	✔	✔	✔					✔		

Stand Alone Colposcope Repair Parts and Drawing Reference

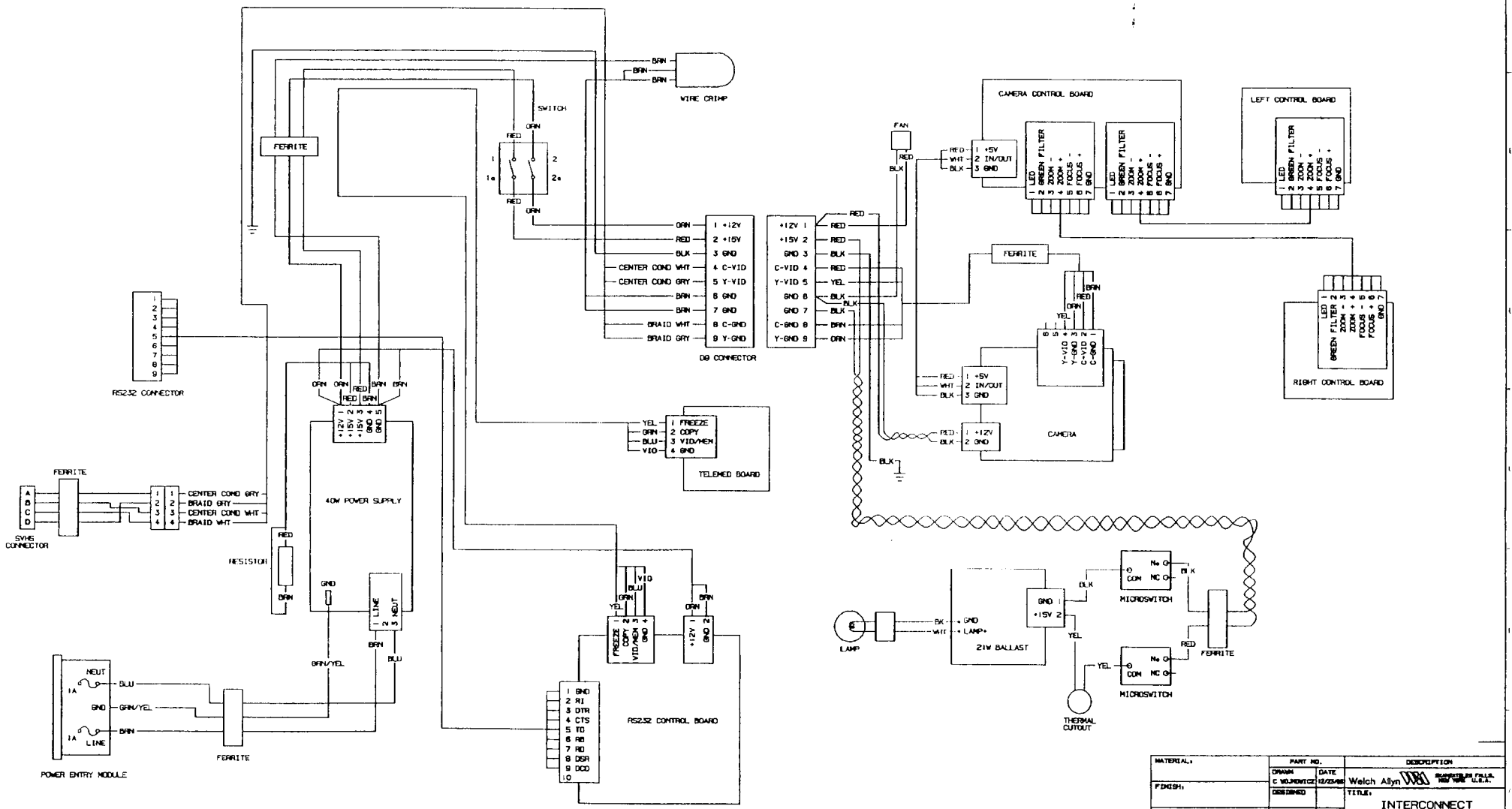
Part #	Drawing#	Page	Bubble#	Part Description	Inv. /10	88021	88022	88024	88026	89021	89022	89024	89026	89050	49555	89555
880102	890015	3	35	HOUSING,DUAL ROW	1					✔	✔	✔	✔			
880102-1	880045	3	72	CONNECTOR, 4PIN	6	✔	✔	✔	✔	✔	✔	✔	✔			
880103	880045	3	73	TERMINAL CRIMP	6	✔	✔	✔	✔	✔	✔	✔	✔			
880104	880045	3	74	CRIMP TERMINAL HOUSING	6	✔		✔	✔							
880105	880045	3	75	TERMINAL,CRIMP	12	✔	✔	✔	✔							
880106-501	880045	3	76	PC BOARD, RS232	2	✔	✔	✔	✔					✔		
880107	880045	3	77	WIRE HARNESS,RESISTOR	1	✔	✔	✔	✔					✔		
880108	880045	2	78	STIFFENER, HANDLE (VERT)	1	✔	✔	✔	✔							
880109-1	880045	3	79	HOUSING, 4PIN	2	✔	✔	✔	✔							
880109-2	880045	3	80	HOUSING, 2PIN	2	✔	✔	✔	✔							
880110	880045	2,3	81	CONTACT PIN	12	✔	✔	✔	✔							
880120	880045	3	82	SHIELD, POWER SUPPLY	0.0	✔	✔	✔	✔					✔		
880121	880045	3	83	LATCH BLOCK KIT	1	✔	✔	✔	✔					✔		
880122	880080	2	46	CAMERA SHIELD	0.0							✔	✔			
880130-501	880045	3	84	ASY, LIGHT DIRECTOR	1	✔	✔	✔	✔	✔	✔	✔	✔			
880131-1	890018	2	26	COVER, FERRITE FINISHED	1	✔	✔	✔	✔					✔		
880133-1	890015	3	38	BEAD FERRITE	1					✔	✔	✔	✔			
880133-2	880045	3	85	BEAD FERRITE	1	✔	✔	✔	✔							
880134	880045	2	86	PIN, CONNECTOR	12	✔	✔	✔	✔							
880135	880039	1	4	WARRANTY CARD	4		✔	✔	✔	✔	✔	✔	✔			
880136	880000	1	10	INSTRUCTION MANUAL	4	✔				✔	✔					
880137-501	880039	1	6	CARTON, W/INSERTS, VERT	1	✔		✔	✔							
880141-501	880039	1	7	HARDWARE KIT	4	✔	✔	✔	✔							
880144-10	880039	1	10	LABEL, COLP,VERT,NTSC	2	✔	✔	✔	✔							
880158-501	880045	3	87	SET, TRANSFORMER HSGS,MACH	0.0	✔	✔	✔	✔					✔		
880159-501	880045		88	SET, HANDLES, VERT POLE	0.0	✔	✔	✔	✔							
880164-501	880045	2	89	TELEMED KEYPAD ASSY	2	✔	✔	✔	✔	✔	✔	✔	✔			
880170	880045	3	90	WIREHARNESS, R232-D9	2	✔	✔	✔	✔					✔		
880171-1				LABEL, BRIGHTNESS	2	✔	✔	✔	✔	✔	✔	✔	✔			
880172	880045	3	30	SVHS - WIRE HARNESS	2	✔	✔	✔	✔					✔		
880174	880045	3	91	INSULATOR, POWER SUPPLY	0.0	✔	✔	✔	✔					✔		
880181	880039	1	1	S-VIDEO CABLE	6	✔	✔	✔	✔	✔	✔	✔	✔			
880188				SPACER, FOAM	0.0					✔	✔	✔	✔			
880191	880080	2	60	STOP, MICROSWITCH	3	✔	✔	✔	✔	✔	✔	✔	✔			
880202	880045	3	101	WASHER	6	✔										
880204				INSTRUCTION MANUAL	1		✔	✔	✔		✔	✔	✔			
880227				COIL CORD	1	✔	✔	✔	✔							
890001-1	890015	2	40	SHAFT, SUPPORT FINISHED	1					✔	✔	✔	✔			
890002	890015	3	41	SHAFT, STOP	1					✔	✔	✔	✔			
890003	890015	3	42	PIN, STOP SHAFT	2					✔	✔	✔	✔			
890004-3	890018	1	31	ADAPTER,SWING ARM FINISHED	0.0									✔		
890005-1	890018	1	32	SLEEVE, ADAPTER,SWING ARM	0.0									✔		

Stand Alone Colposcope Repair Parts and Drawing Reference

Part #	Drawing#	Page	Bubble#	Part Description	Inv. /10	88021	88022	88024	88026	89021	89022	89024	89026	89050	49555	89555	
890008-1	890018	1	33	POLE, SWING ARM (FINISHED)	0.0									✔			
890012	890018	1,2	34	ASSY HARNESS,SWING ARM POLE	1									✔			
890013	890018	1	35	PLUG, BASE ATTACHMENT	2									✔			
890015-501	890056	1	12	ARM ASSEMBLY	0.0					✔	✔	✔	✔				
890016	890015	2,3	43	WIRE HARNESS ARM	1					✔	✔	✔	✔				
890017	890015	3	44	SWING ARM	0.0					✔	✔	✔	✔				
890018-501	890055	1	1	ASSY,POLE, SWING ARM	0.0									✔			
890025	890015	2	45	STIFFENER, HANDLE(SWING ARM)	1					✔	✔	✔	✔				
890026-3	890018	1	44	FLANGE, SWING ARM FINISHED	0.0									✔			
890028	890018	1	36	FEMALE CONNECTOR 8PIN	4									✔			
890028-1	890018	1	37	CONNECTOR, FEM 4 PIN	4									✔			
890029	890018	1	38	TERMINAL PIN	12									✔			
890035-501	890056	1	13	CARTON W/INSERTS, SWING ARM	0.0					✔	✔	✔	✔				
890037-501	890056	1	14	HARDWARE KIT	1					✔	✔	✔	✔				
890039-501	890015	1	46	SET, HANDLES, SWING ARM	1					✔	✔	✔	✔				
890047	890055	1	2	PACKAGING, SWING ARM POLE, BOX	0.0									✔			
890048	890055	1	3	FOAM INSERT, SWING ARM POLE	0.0									✔			
890041-1	890060	1	4	INSERT PACKAGING, BOTTOM	1											✔	
890041-2	890060	1	5	INSERT PACKAGING, TOP	1											✔	
890049	890060	1	6	CARTON, SWING ARM BASE	1											✔	
900248-47	495555	1		CARTON	1										✔		
D880116-1				KEYPAD CONTROL, LEFT (DWG)	1						✔	✔					
D880161				SCHEMATIC, LOGIC (DWG)	1			✔									
D880198				INTERCONNECT DIAGRAM,VERT (DWG)	1	✔	✔	✔	✔								
D890058				INTERCONNECT DIAGRAM,SWING ARM (DWG)	1					✔	✔	✔	✔				
M11041	880045	2,3	1	MOLYKOTE 33 GREASE MED CON.	1		✔	✔	✔	✔	✔	✔	✔				
M13163				ELECTROSTATIC POWDER	1							✔	✔				
M13168			1	ENAMEL BENJAMIN RUSH TAN	1	✔	✔	✔	✔	✔	✔	✔	✔				
M30328	880045		103	LOCTITE 262-31	1	✔	✔	✔	✔	✔	✔	✔	✔				
M30333	880045	2,3	93	LOCTITE 495 SUPER BONDER	1	✔	✔	✔	✔								
M30345	880045	2,3	16	LOCTITE RC/680 50 ML BOTTLE	1	✔	✔	✔	✔	✔	✔	✔	✔	✔			
M30372	880080	3	56	LOCTITE 403	1	✔	✔	✔	✔	✔	✔	✔	✔				
M30373	880045	2,3	99	LOCTITE 425 ASSURE THDLOCKER	1	✔	✔	✔	✔	✔	✔	✔	✔				
M30375	880045	2,3	3	LOCTITE-222	1	✔	✔	✔	✔	✔	✔	✔	✔	✔			
M30383	880080	3	2	MASTERBOND EP42HT EPOXY	1	✔	✔	✔	✔	✔	✔	✔	✔				
M30385	880045	2,3	100	ACCELERATOR	1	✔	✔	✔	✔				✔				
M31426	880080	2	31	ENERGIZED RESIN SOLDER	1	✔	✔	✔	✔	✔	✔	✔	✔				
M40173	880045	2	102	DOW CORNING 1122 GEAR GREASE	1					✔	✔	✔	✔	✔			
880220				VIDEO COLP SERVICE MANUAL	1	✔	✔	✔	✔	✔	✔	✔	✔				

D | 880198 | A | THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

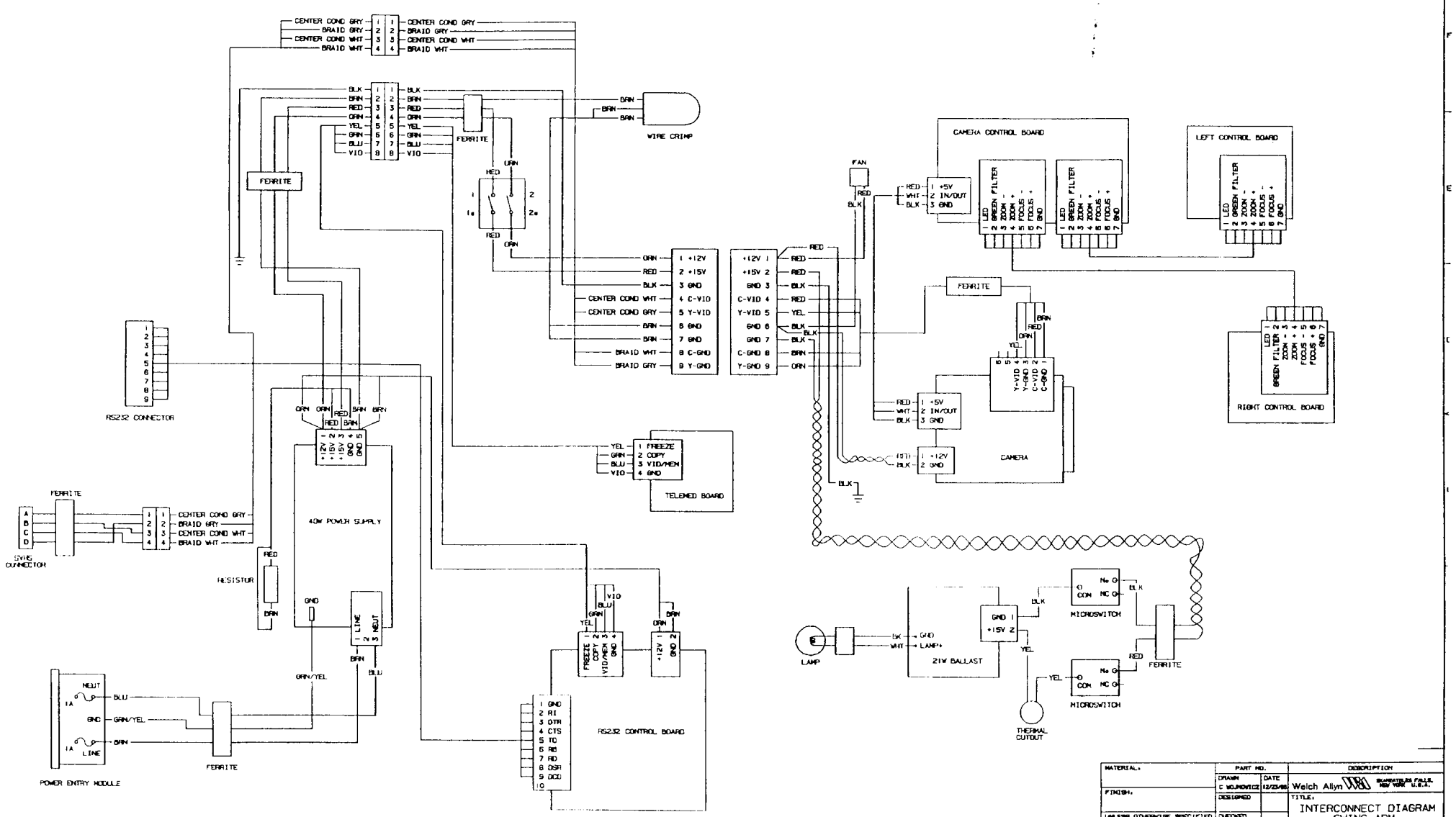
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	E-34127	CRW	12/23/96	SGS



MATERIAL:	PART NO.		DESCRIPTION
	DRAWN	DATE	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.
FINISH:	C VOLKOVITCH	12/23/96	
	DESIGNED		TITLE: INTERCONNECT DIAGRAM VERT
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING -TOLERANCES- .XX ± .02 ANGLES ± 1/2° .XXX ± .005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	CHECKED M CURRY	1/8/97	
	APPROVED SGS	1/7/97	CODE IDENT 94478 / D / DRAWING NO. 880198 / REV A
	REL TO PROD RPO	1/8/97	SCALE 1:1 / DO NOT SCALE / SHEET 1 OF 1

890058 A THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	97-1127	CRW	12/23/96	SBS



MATERIAL:	PART NO.		DESCRIPTION
	DRAWN	DATE	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.
FINISH:	C WOJNOWICZ	12/23/96	
	DESIGNED		TITLE: INTERCONNECT DIAGRAM SWING ARM
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING	CHECKED M CURRY	1/8/97	
-TOLERANCES- .XX = ±.02 ANGLES: ±1/2° .XXX = ±.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	APPROVED SBS	1/7/97	CODE IDENT 84475 D DRAWING NO. 890058 REV A
	REL TO PROD MFG	1/8/97	SCALE 1:1 DO NOT SCALE SHEET 1 OF 1

D1 880000 B

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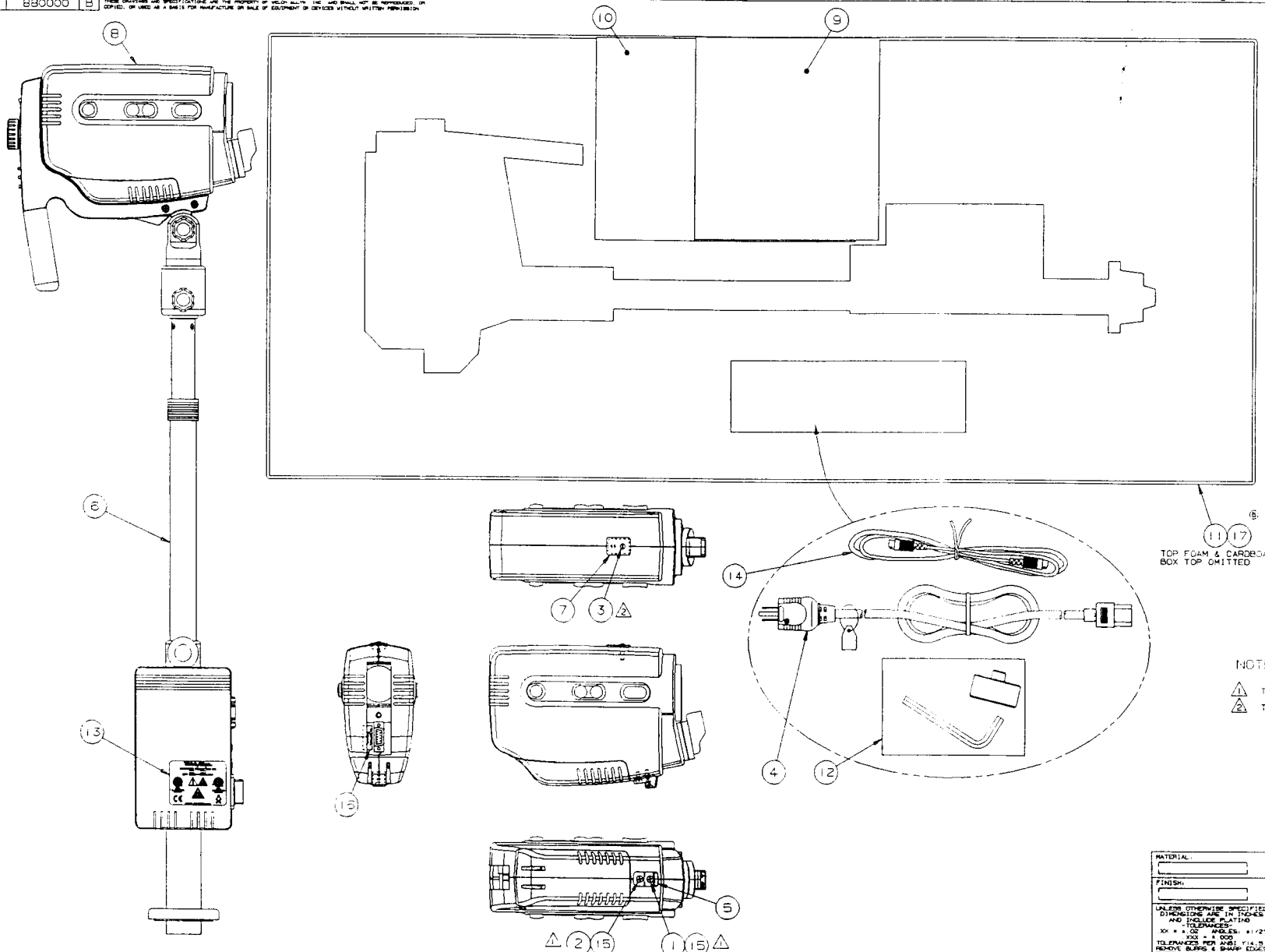
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S33777	CRW	10/17/96	AIK
B	ADD'D ITEM 17	S33989	CRW	11/1/96	AIK



NOTES:

⚠1 TORQUE TO 12.00±0.25 IN-LB.

⚠2 TORQUE TO 1.00±0.25 IN-LB.

MATERIAL:	88021 PART NO.	COLPOSCOPE, VERT, NTSC - DOM DESCRIPTION	
FINISH:	DRAWN DR WOJNOVICZ 10/17/96	Welch Allyn, SKANEATELES FALLS, NEW YORK U.S.A.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX ± .03 ANGLES: ±1/2° XXX ± .005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS - CLASS - 2A INTERNAL THDS - CLASS - 2B	DESIGNED	TITLE: COLPOSCOPE, VERT, NTSC	
	CHECKED M KENDRICK 10/28/96		
	APPROVED A KRAUTER 10/28/96	CODE IDENT 84475 D	DRAWING NO. 880000 REV B
	REL TO PROD RPO 10/28/96	SCALE 1:2	DO NOT SCALE SHEET 1 OF 1

D | 880039 | A

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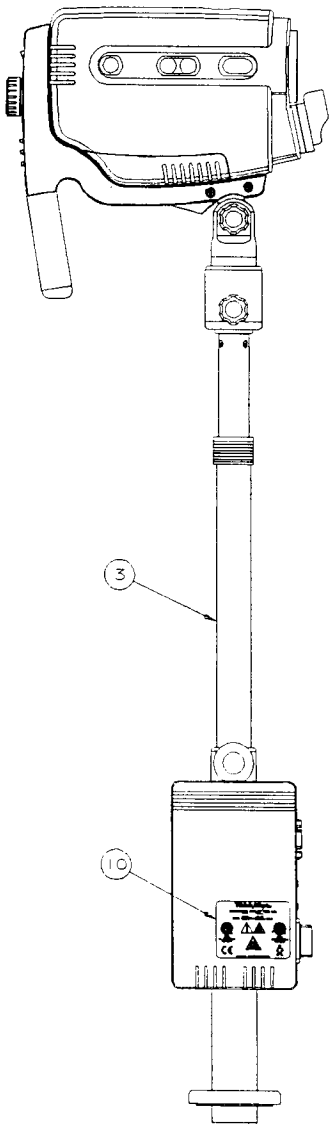
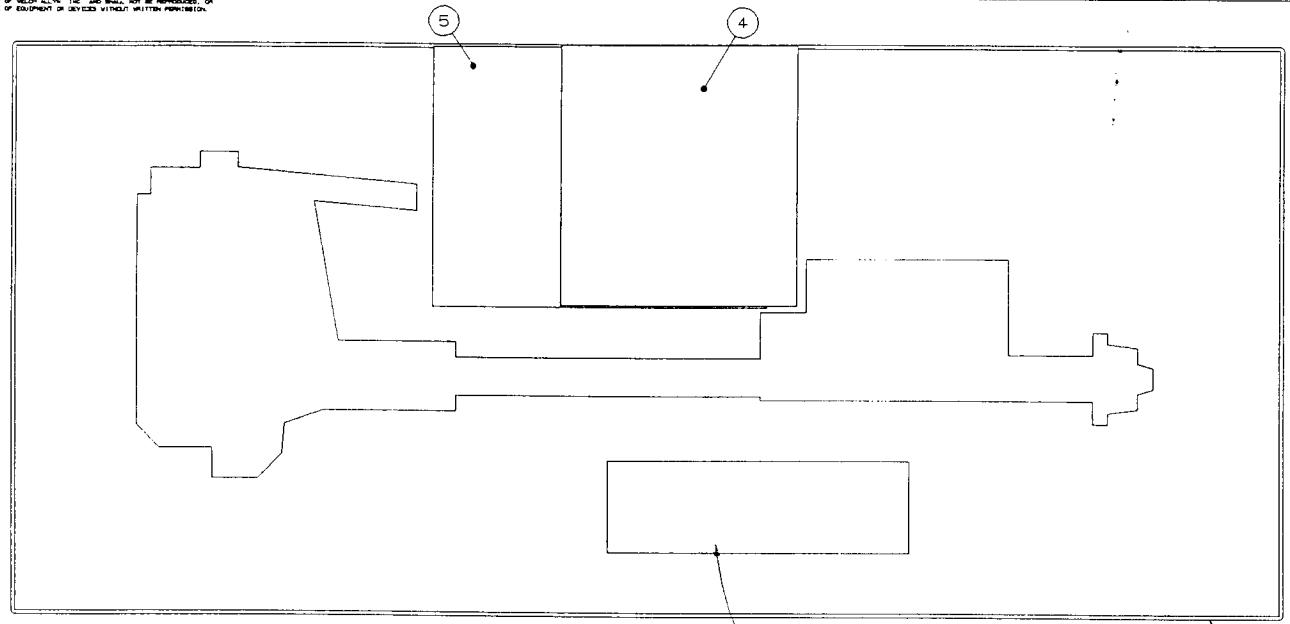
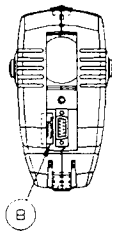
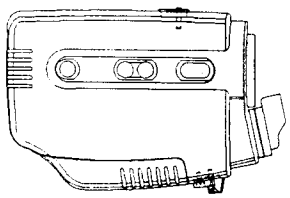
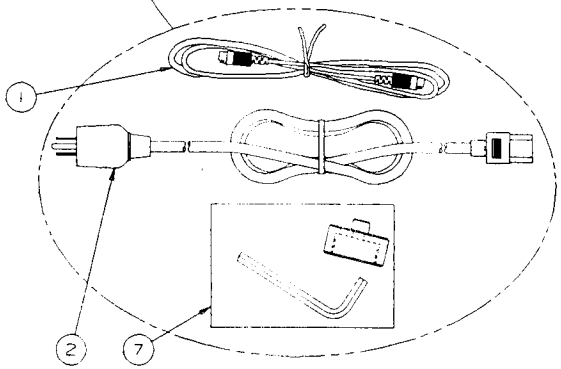
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	3777	CRW	10/17/96	AIK











TOP FOAM & CARDBOARD BOX TOP OMITTED

PART NO.	DESCRIPTION
88026	COLPOSCOPE, VERT AUS
88024	COLPOSCOPE, VERT UK
88022	COLPOSCOPE, VERT EUROPE

MATERIAL:

FINISH:

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
-TOLERANCES-
.XX = ± .02 ANGLES: ±1/2°
.XXX = ± .005
TOLERANCES PER ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS - CLASS - 2A
INTERNAL THDS - CLASS - 2B

DRAWN	CR WOJNOWICZ	10/17/96
DESIGNED		
CHECKED	M KEHOSKIE	10/28/96
APPROVED	A KRAUTER	10/28/96
REL TO PROD	RPO	10/28/96

Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.

TITLE:
COLPOSCOPE, VERT, PAL

CODE IDENT	SIZE	DRAWING NO.	REV
64475	D	880039	A

SCALE 1:2 | DO NOT SCALE | SHEET 1 OF 1

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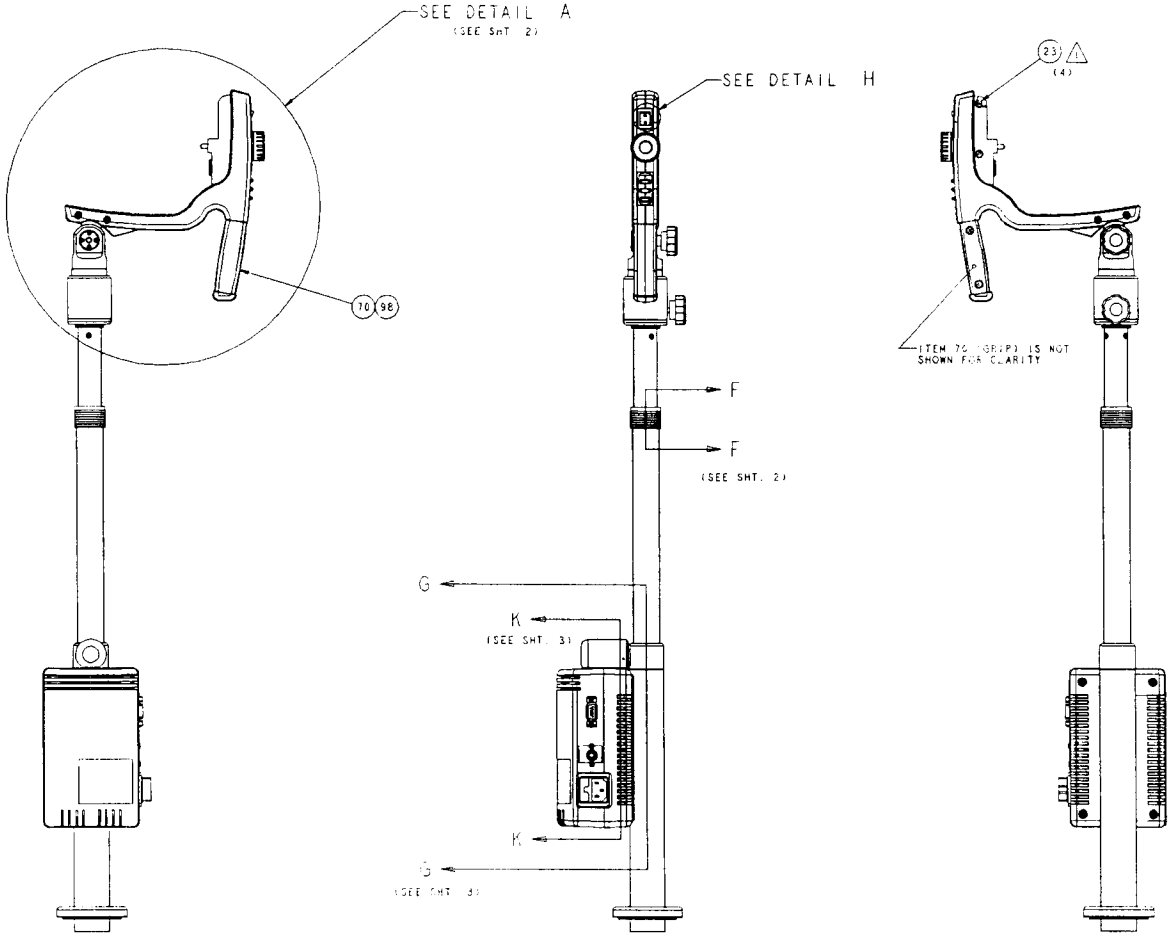
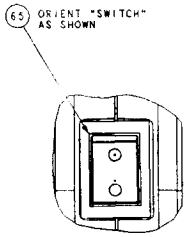
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	33840	DCS	9/25/96	AJK
B	NOTE 5. 15 WAS 20	33860	DCS	10/16/96	AJK
C	REV'D SHT. 2 & 3	33888	DCS	11/1/96	AJK
D	11.50±.25 WAS 10.00±.25	34031	DCS	11/7/96	AJK





DETAIL H
SCALE 2

NOTES:

1. TORQUE TO 5.00± .25 IN-LBS
2. TORQUE TO 12.00± .25 IN-LBS
3. TORQUE TO 25.00±1.00 IN-LBS.
4. TORQUE TO 8.00±.25 IN-LBS
5. TORQUE TO 15.00±1.00 IN-LBS. (B)
6. TORQUE TO 1.25±.25 IN-LBS.
7. TORQUE TO 11.50± .25 IN-LBS (D)
8. ASSEMBLE PER SPEC. A03589

-501 PART NO.	ASSEMBLY DESCRIPTION			
PRO-E FILE: COLP-POLE.ASSEM	DRAWN: DCS	DATE: 8-Aug-96	Welch Allyn	SKANEATELES FALLS, NEW YORK U.S.A.
MATERIAL: -	DESIGNED: MK	8-8-96	TITLE: ASSY, VERTICAL POLE	
FINISH: -	CHECKED: ME	9/23/96		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING -TOLERANCES- .XX ± 0.02 ANGLES: ±1/2° .XXX ± .005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	APPROVED: AJK	9/23/96	CODE IDENT: 96475 D	DRAWING NO. 880045 REV D
	REL TO PROD: RPB	9/24/96	SCALE: DO NOT SCALE	SHEET 1 OF 3

D | 880045 | D

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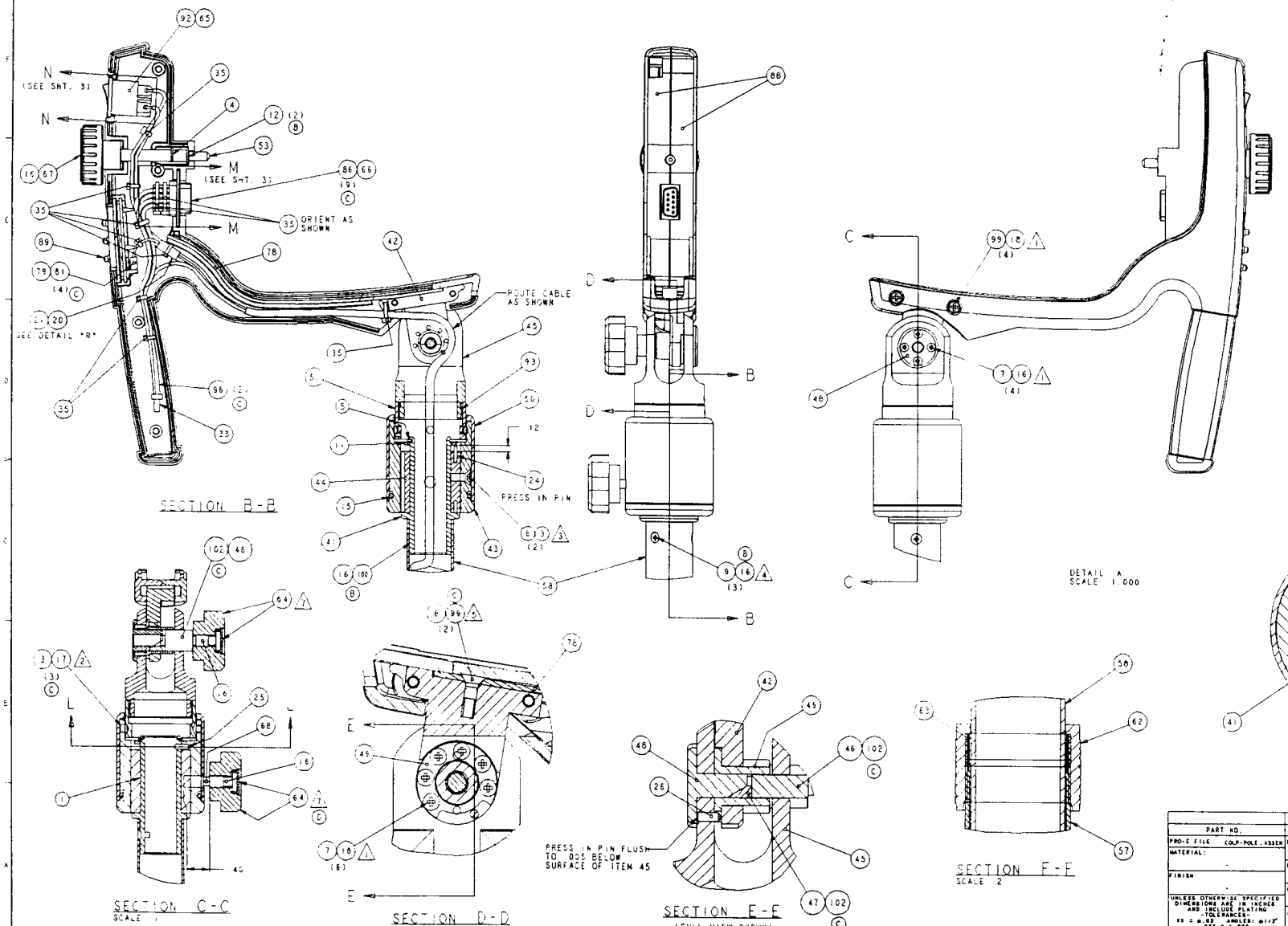
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-33849	DCS	9/23/96	AIK
B	ADDED (2) (F-3) & BALLOON 16-100 (C-7). BALLOON (4 WAS 3 (C-5).	S-33860	DCS	10/16/96	AIK
C	BALLOON 102 WAS 1 (C-8 & A/B-4). 99 WAS 3 (C-6). ADDED (2) (D-7), (4) (E-8) & (9) (E-7)	S-33989	DCS	11/1/96	AIK
D	ADDED NOTE 7 TO ITEM 64	S-34031	DCS	11/7/96	AIK



PART NO.	DESCRIPTION
PRO-E FILE COLP-POLE.ASSEM	DRAWN DCS DATE 8-Aug-96
MATERIAL: -	DESIGNED
FINISH: -	CHECKED MK 9/23/96
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX = ±.02 ANGLES: ±1/2° XXX = ±.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 3A INTERNAL THDS = CLASS - 2B	APPROVED AIK 9/23/96
	REL TO PROD RPS 9/24/96

Welch Allyn, SKANEATELES FALLS, NEW YORK U.S.A.

TITLE: ASSY, VERTICAL POLE

CODE IDENT 66419 | D | DRAWING NO. 880045 | REV D

SCALE | DO NOT SCALE | SHEET 2 OF 3

D 880045 C

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REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-33849	DCS	9/23/96	AJK
B	ADDED BALLOON 100 (A & B-6)	S-33880	DCS	10/16/96	AJK
C	ADDED BALLOON 99 & 101 (A & B-7); BALLOON 99 WAS 3 (C-2). ADDED 127 (BAC-9 & F-5), 131 (E-2) & 141 (F-4, E-2 & B-2).	S-33989	DCS	11/1/96	AJK

DETAIL R
SCALE: NONE

SECTION P-P
SCALE 1

SECTION K-K
SCALE 1

SECTION J-J
SCALE 1

SECTION G-G
SCALE 1

SECTION M-M
SCALE 2

SECTION Q-Q
SCALE 1

SECTION N-N
SCALE 2

SERIAL NUMBER LOCATION AT BOTTOM OF POWER SUPPLY

ORIENT AS SHOWN

PART NO.	DESCRIPTION
PRO-E FILE: COLP-POLE, ASSEM	DRAWN: DCS, DATE: 12-Aug-96
MATERIAL: -	DESIGNED:
FINISH: -	CHECKED: MK, 9/23/96
APPROVED: AJK, 9/23/96	REL TO PROD: RPD, 9/24/96

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
TOLERANCES:
XX ± 0.02 ANGLES: ±1/2°
XXX ± 0.010
TOLERANCES PER ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS = CLASS - 2A
INTERNAL THDS = CLASS - 2B

Welch Allyn, Skaneateles Falls, New York U.S.A.

TITLE: ASSY, VERTICAL POLE

CODE IDENT 06878 | SIZE D | DRAWING NO 880045 | REV C

SCALE | DO NOT SCALE | SHEET 3 OF 3

D: 880080 B

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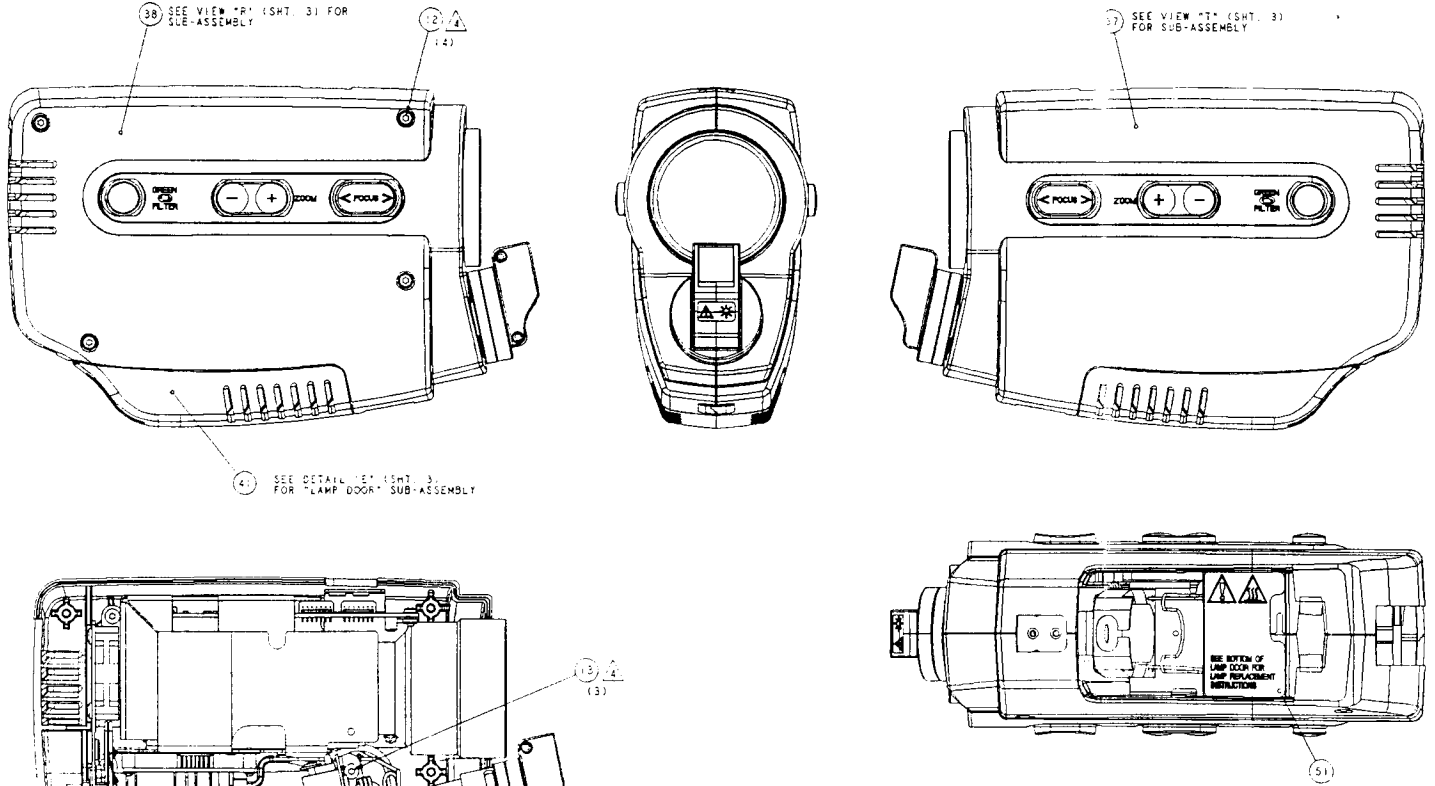
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-23538	DCS	9/18/96	AIK
B	REMOVED "SERIAL NUMBER LOCATION" NOTE (9-2). CHANGED "BRIGHTNESS CABLE" (E-5).	S-23600	DCS	10/16/96	AIK


38 SEE VIEW "F" (SHT. 3) FOR SUB-ASSEMBLY
2 4 (4)
37 SEE VIEW "T" (SHT. 3) FOR SUB-ASSEMBLY
41 SEE DETAIL "E" (SHT. 3) FOR "LAMP DOOR" SUB-ASSEMBLY
3 4 (3)
SEE DETAIL C (SEE SHT 3)
ROUTE WIRES THROUGH STRAIN RELIEF DETAIL (IN LEFT HOUSING), AS SHOWN
51
SEE BOTTOM OF LAMP DOOR FOR LAMP REPLACEMENT INSTRUCTIONS

VIEW B

VIEW SHOWN WITH ITEMS 38 & 41 REMOVED FOR CLARITY

VIEW SHOWN WITH ITEMS 3, 19 & 41 REMOVED FOR CLARITY

NOTES:

1. TORQUE TO 7.75±.25 IN-LBS
2. TORQUE TO 5.00±.50 IN-LBS
3. TORQUE TO 3.00±.25 IN-LBS
4. TORQUE TO 6.00±.25 IN-LBS
5. ASSEMBLE PER SPEC. A03590

880080-502	PAL
880080-501	NTSC

PART NO. DESCRIPTION

PRO-E FILE: COLP_ASSY..ASSEM

MATERIAL: AS SHOWN

FINISH: -

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
TOLERANCES:
.XX = ±.01 ANGLES: ±1/2°
.XXX = ±.005
TOLERANCES PER ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS = CLASS 2A
INTERNAL THDS = CLASS 2B

	DRAWN	DATE
	DCS	14-Aug-96
DESIGNED		8-14-96
CHECKED	MK	9-19-96
APPROVED	AIK	9-19-96
REL TO PROD	RPD	9-19-96

Welch Allyn, SKANEATELES FALLS, NEW YORK U.S.A.

TITLE: ASSY., COLPOSCOPE

CODE IDENT: 14472 SIZE: D

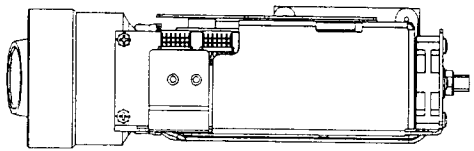
DRAWING NO: 880080 REV: B

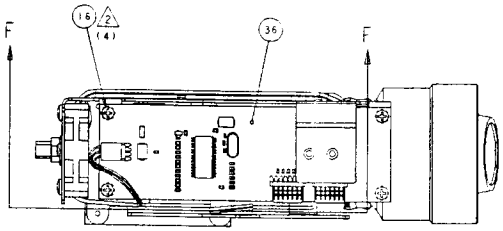
SCALE: 1:1 DO NOT SCALE SHEET: 1 OF 3

D 880080 B

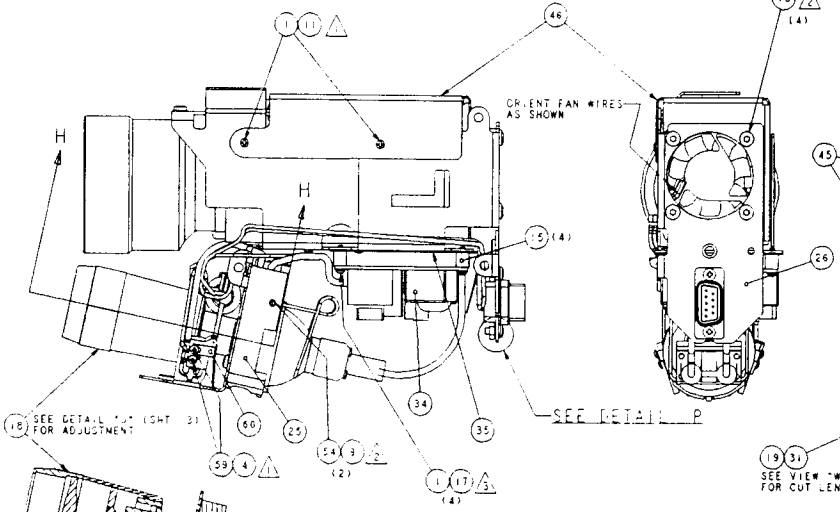
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

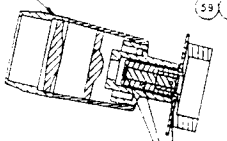
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-33536	DCS	9/18/96	AIK
B	ADDED DETAIL "P" (B-6) REMOVED BALLOON 5 & TRI SYMBOL 2 (C-6) & BALLOONS 7 & 21 (C-1)	S-33800	DCS	10/16/96	AIK





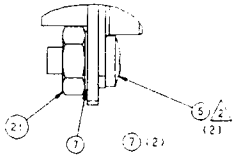
VIEW SHOWN WITH ITEM 46 REMOVED FOR CLARITY



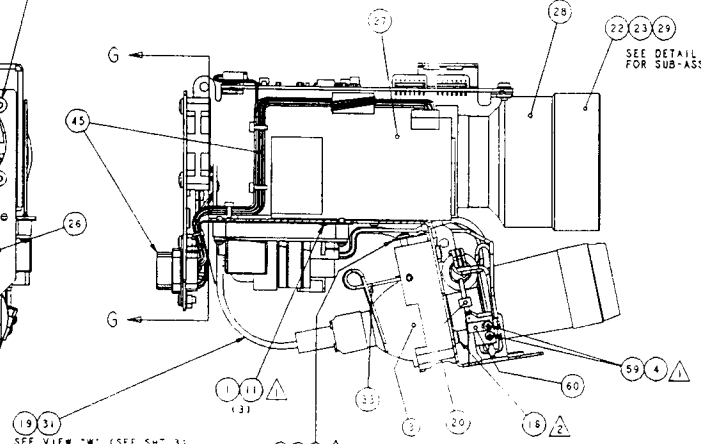


SECTION H-H

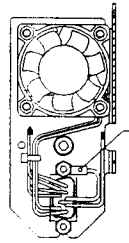
24 32 42 SEE DETAIL "K" (SHT. 3) FOR SUB-ASSEMBLY & ADJUSTMENT



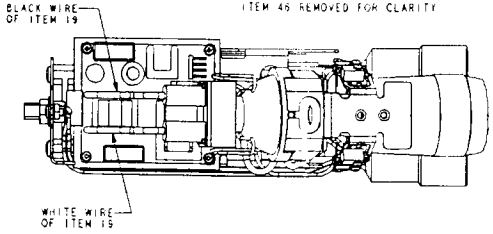
8 DETAIL P
SCALE 4



SECTION F-F
SCALE
ITEM 46 REMOVED FOR CLARITY



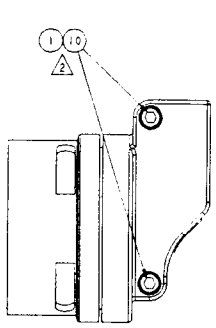
SECTION G-G



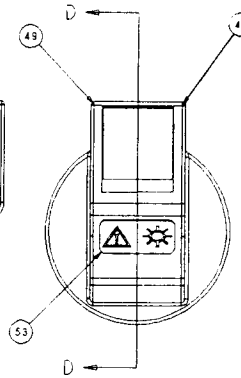
PART NO.	DESCRIPTION		
PRO-E FILE COLP_ASSY_ASSEM	DRAWN DCS	DATE 14-Aug-96	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.
MATERIAL: -	DESIGNED		TITLE: ASSY, COLPOSCOPE
FINISH: -	CHECKED MK	9-19-96	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX = ±.02 ANGLES: ±1/2° XXX = ±.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	APPROVED AIK	9-19-96	CODE IDENT 88475 D DRAWING NO. 880080 REV B
	REL TO PROD RPD	9-19-96	SCALE 1 : 1 DO NOT SCALE SHEET 2 OF 3

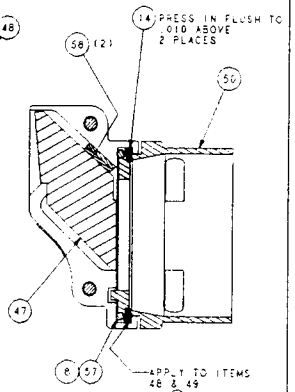
D 880080 18 THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN INC. AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-33536	DCS	9/18/96	AIK
B	UPDATED "BRIGHTNESS LABEL" (E-7). ADDED NOTE TO SEC. D-D.	S-33800	DCS	10/10/96	AIK

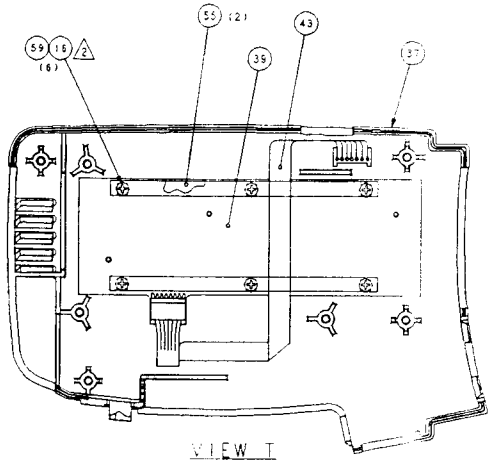


DETAIL C
SCALE 2

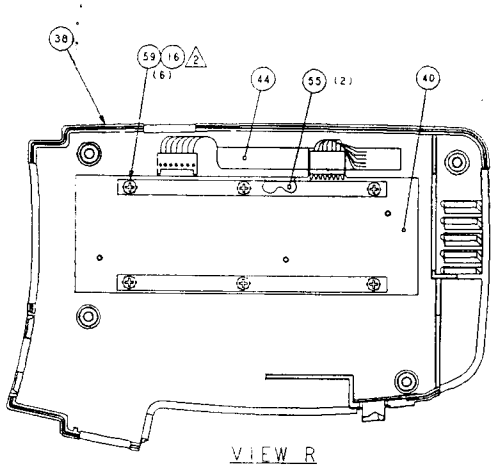




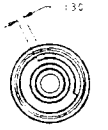
SECTION D-D

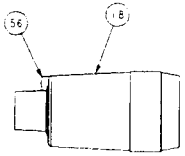


VIEW T
SCALE 1

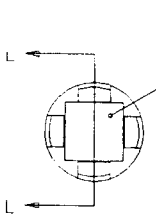


VIEW R
SCALE 1

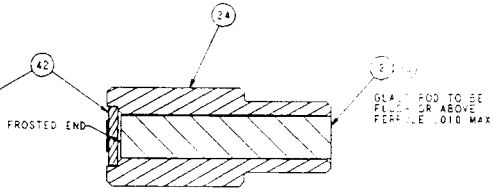




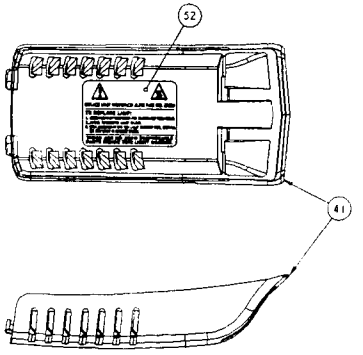
DETAIL J



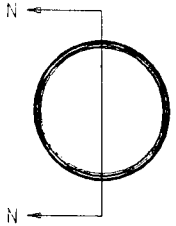
VIEW K
SCALE 4



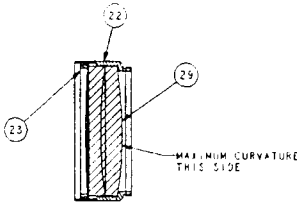
SECTION L-L



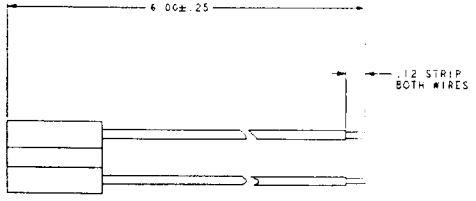
DETAIL E
SCALE 1



DETAIL M
SCALE 1



SECTION N-N
SCALE 1



VIEW W

PART NO.	DESCRIPTION
PRO-E FILE: BEAM_DIR_ASSEM	DRAWN: DCS — DATE: 15-Aug-96
MATERIAL: -	DESIGNED:
FINISH: -	CHECKED: MK — 9-19-96
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES AND INCLUDE PLATING. -TOLERANCES- XX ± .02 ANGLES: ±1/2° XXX ± .010 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	APPROVED: AIK — 9-19-96 — CODE IDENT: 04813 — SIZE: D — DRAWING NO.: 880080 — REV: B
	REL TO PROD: RPD — 9-19-96 — SCALE: 2:1 — DO NOT SCALE — SHEET: 3 OF 3

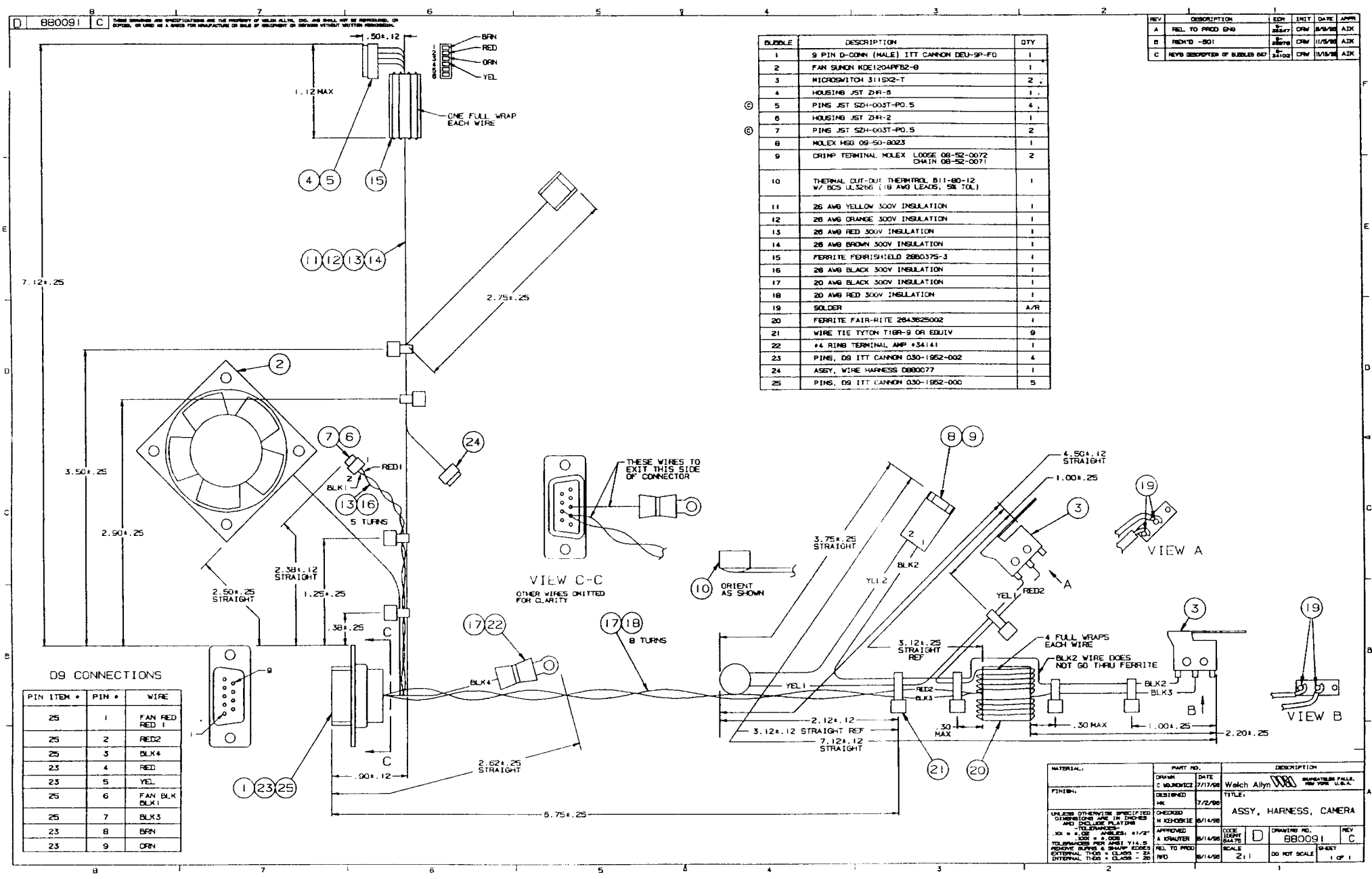
Welch Allyn W&A DRAKE/ELEC. FALLS, NEW YORK U.S.A.

TITLE: ASSY, COLPOSCOPE

D | 880091 | C

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	E-25477	CRW	8/8/98	AJK
B	REV'D -B01	E-25878	CRW	11/5/98	AJK
C	REVD DESCRIPTION OF BUBBLES 8&7	E-26102	CRW	11/18/98	AJK

BUBBLE	DESCRIPTION	QTY
1	9 PIN D-CONN (MALE) ITT CANNON DEU-9P-FD	1
2	FAN SUNON KDE1204PFB2-8	1
3	MICROSWITCH 311SX2-T	2
4	HOUSING JST ZHR-5	1
5	PINS JST SZH-003T-P0.5	4
6	HOUSING JST ZHR-2	1
7	PINS JST SZH-003T-P0.5	2
8	MOLEX HSG 09-50-8023	1
9	CRIMP TERMINAL MOLEX LOOSE 08-52-0072 CHAIN 08-52-0071	2
10	THERMAL CUT-OUT THERMTROL B11-80-12 W/ BCS UL3256 (18 AWG LEADS, 5% TOL)	1
11	26 AWG YELLOW 300V INSULATION	1
12	26 AWG ORANGE 300V INSULATION	1
13	26 AWG RED 300V INSULATION	1
14	26 AWG BROWN 300V INSULATION	1
15	FERRITE FERRISHIELD 2880375-3	1
16	28 AWG BLACK 300V INSULATION	1
17	20 AWG BLACK 300V INSULATION	1
18	20 AWG RED 300V INSULATION	1
19	SOLDER	A/R
20	FERRITE FAIR-RITE 2843625002	1
21	WIRE TIE TYTON TIGR-9 OR EQUIV	9
22	#4 RING TERMINAL AMP #34141	1
23	PINS, D9 ITT CANNON 030-1952-002	4
24	ASSY, WIRE HARNESS D880077	1
25	PINS, D9 ITT CANNON 030-1952-000	5



D9 CONNECTIONS

PIN ITEM #	PIN #	WIRE
25	1	FAN RED RED 1
25	2	RED2
25	3	BLK4
23	4	RED
23	5	YEL
25	6	FAN BLK BLK1
25	7	BLK3
23	8	BRN
23	9	ORN

MATERIAL:

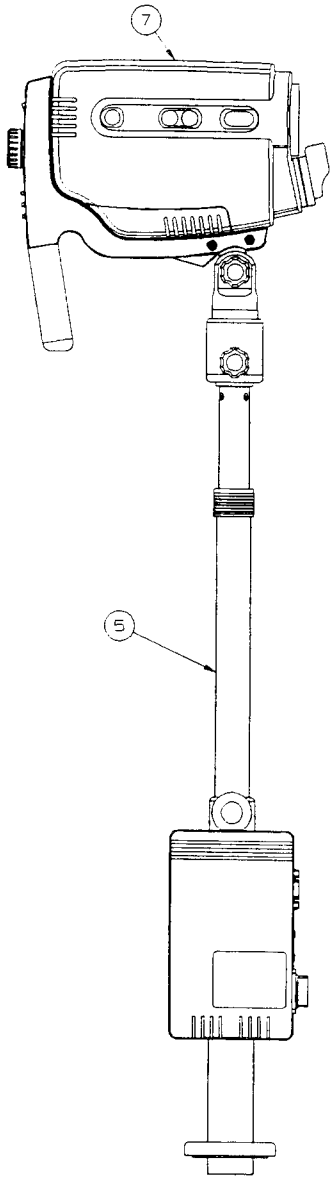
FINISH:

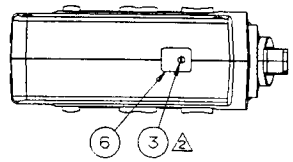
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
-TOLERANCES-
.XX ± .02
.XXX ± .005
ANGLES: ±1/2°
TOLERANCING PER: ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS = CLASS - 2A
INTERNAL THDS = CLASS - 2B

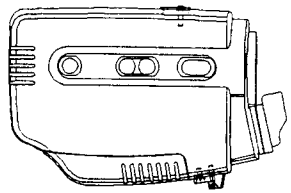
PART NO.		DESCRIPTION
DRAWN: C WOJNOWICZ	DATE: 7/17/98	Welch Allyn, SKANEATELES FALLS, NEW YORK U.S.A.
DESIGNED: MK	7/2/98	TITLE: ASSY, HARNESS, CAMERA
CHECKED: M KEHOSKIE	8/14/98	
APPROVED: A KRAUTER	8/14/98	CODE IDENT 84475
REL TO PROD: RFD	8/14/98	SCALE 2:1
		DRAWING NO. 880091 REV C
		DO NOT SCALE SHEET 1 OF 1

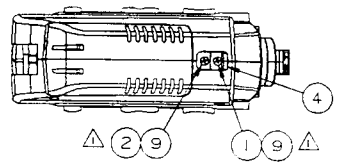
D | 880140 | A | THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	13777	CRW	10/17/96	AIK









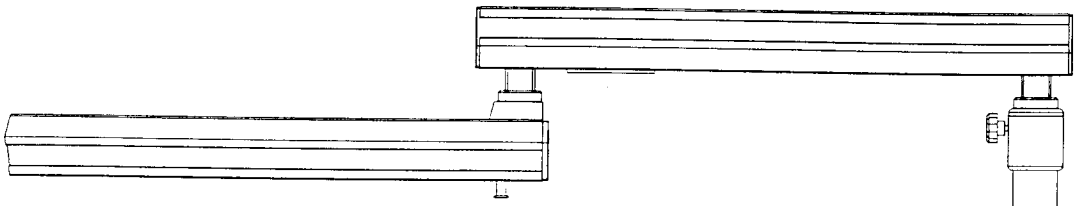
NOTES:

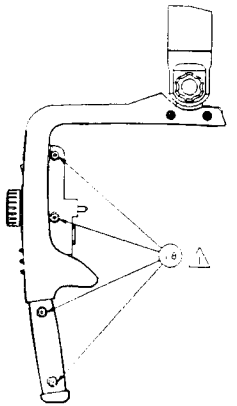
1. TORQUE TO 12.00±0.25 IN-LB.
2. TORQUE TO 1.00±0.25 IN-LB.

MATERIAL:	88003 PART NO.	ASSY, VERT POLE & COLP DESCRIPTION	
FINISH:	DRAWN: DR WOJNOWICZ 10/17/96	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX ± 0.02 ANGLES: ±1/2° XXX ± 0.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	DESIGNED:	TITLE: ASSY, VERT POLE & COLP	
	CHECKED: A KENOSKIE 10/28/96		
	APPROVED: A TRAUTER 10/28/96	CODE IDENT 04479	D
	REL TO PROD: RPD 10/28/96	SCALE 1:2	DO NOT SCALE
		DRAWING NO. 880140	REV A
		SHEET 1 OF 1	

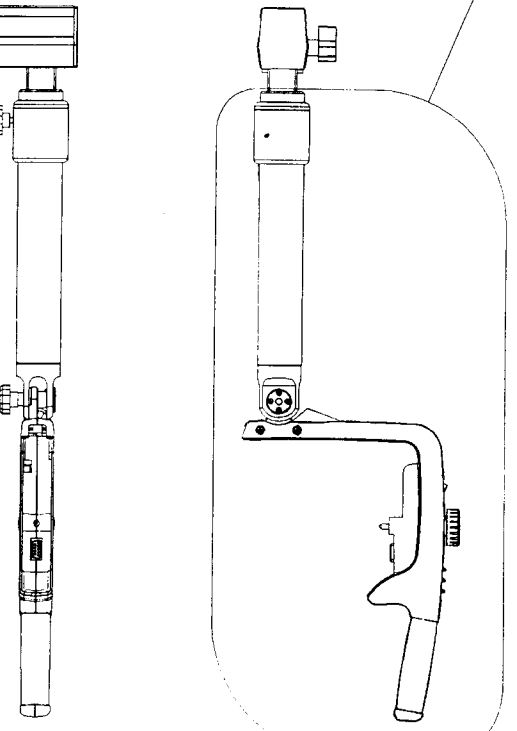
D 890015 A THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

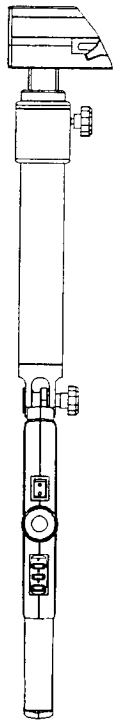
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD	S-53802	DCS	10-11-96	AJK





VIEW SHOWN WITH ITEM 34 (HANDLE GRIP) REMOVED FOR CLARITY





NOTES:

1. TORQUE TO 5.00± .25 IN-LBS.
2. TORQUE TO 12.00±1.00 IN-LBS.
3. TORQUE TO 25.00±1.00 IN-LBS.
4. TORQUE TO 15.00±1.00 IN-LBS.
5. TORQUE TO 10.00± .25 IN-LBS
6. ASSEMBLE PER SPEC., AO3587

-501			DESCRIPTION
PART NO.			
PRO-E FILE: OLP_SWING_ARM_ASSEM	DRAWN: DCS	DATE: 20-Sep-96	Welch Allyn, Skaneateles Falls, New York U.S.A.
MATERIAL: -	DESIGNED:		TITLE: ASSY, SWING ARM
FINISH: -	CHECKED: MK	10/16/96	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING. -TOLERANCES- .XX = ±.02 ANGLES: ±1/2° .XXX = ±.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS : CLASS - 3A INTERNAL THDS : CLASS - 2B	APPROVED: AJK	10/16/96	CODE IDENT: 88475 · D · DRAWING NO. 890015 · REV A
	REL TO PROD: RPD	10/17/96	SCALE: DO NOT SCALE · SHEET 1 OF 3

D 690015 A

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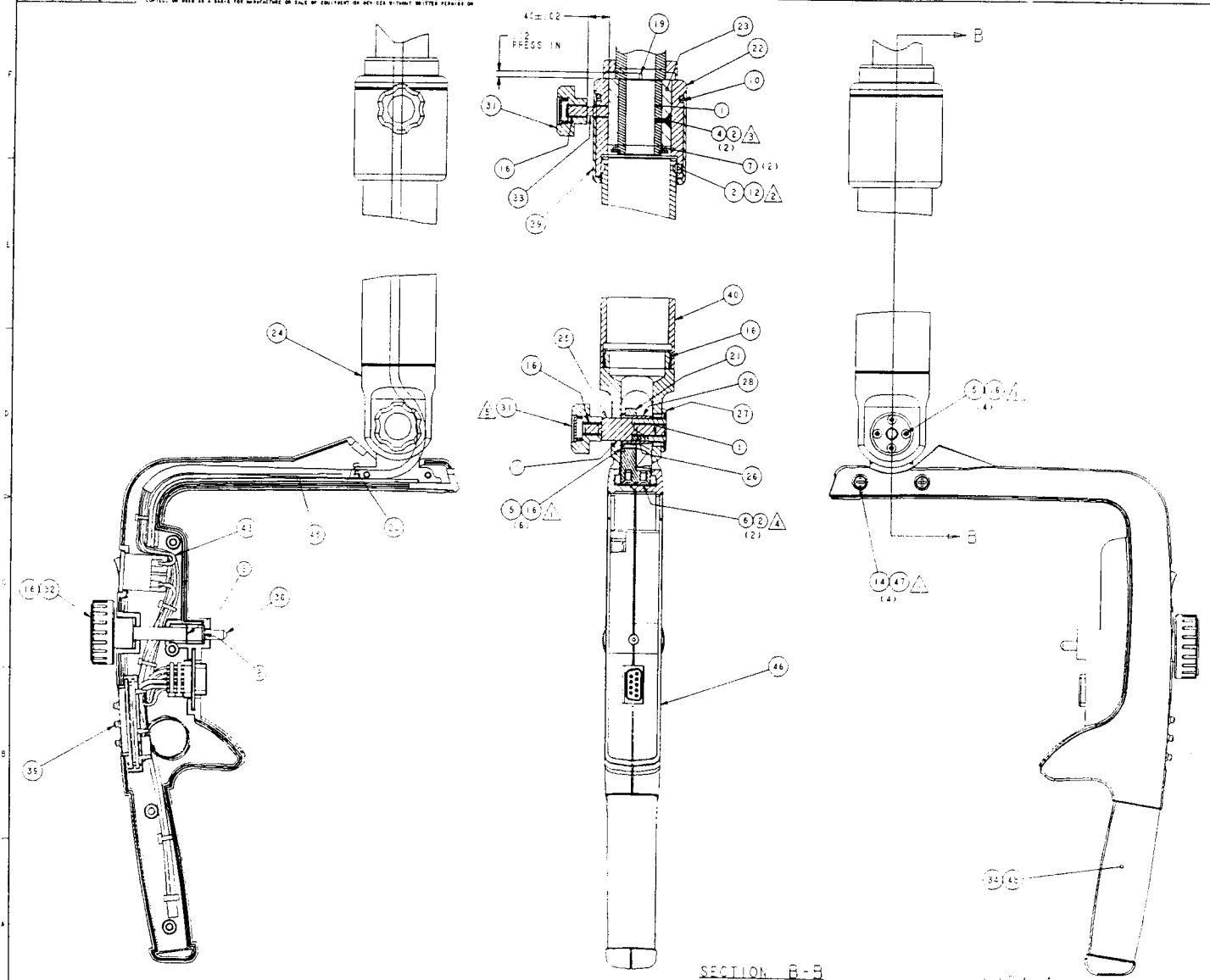
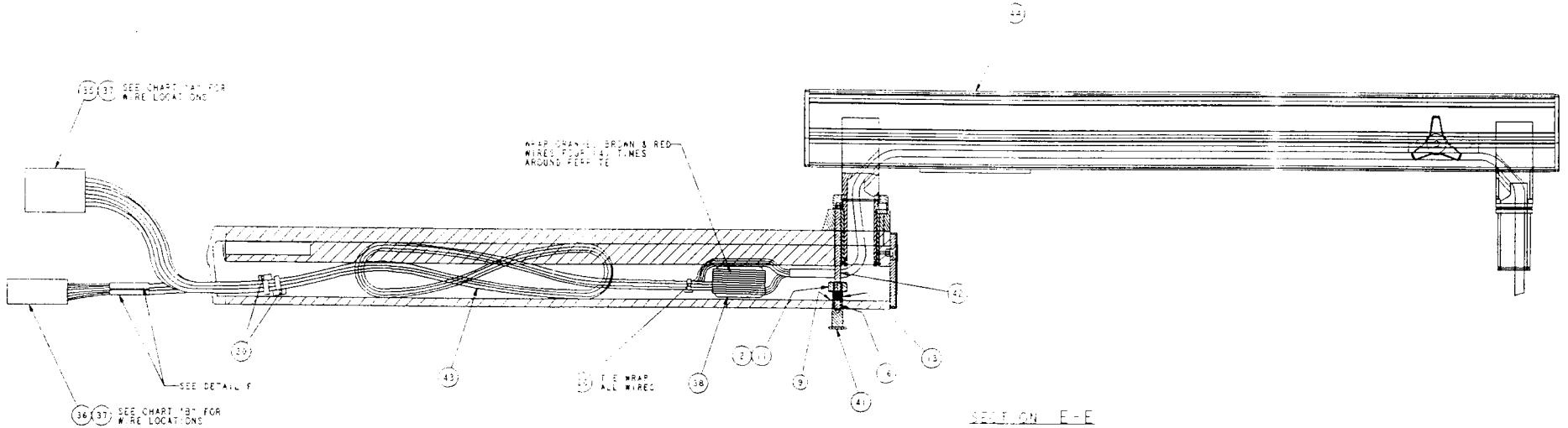
REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD	S 32852	DCS	10-11-96	AIK



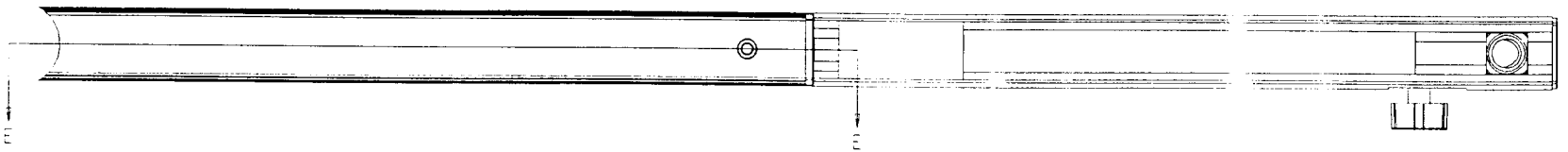
PART NO.		DESCRIPTION	
PRO-E FILE	DRAWN DCS 9/25/96	Welch Allyn	SKANEATELES FALLS, NEW YORK U.S.A.
MATERIAL:	DESIGNED	TITLE	ASSY., SWING ARM
FINISH:	CHECKED MK 10/16/96		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX ± .02 ANGLES ± 1/2° XXX ± .005	APPROVED AIK 10/16/96	CODE IDENT 64475	D DRAWING NO. 8900.5 REV A
TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS: CLASS - 2A INTERNAL THDS: CLASS - 2B	REL TO PROD RFD 10/17/96	SCALE DO NOT SCALE	SHEET 2 OF 3

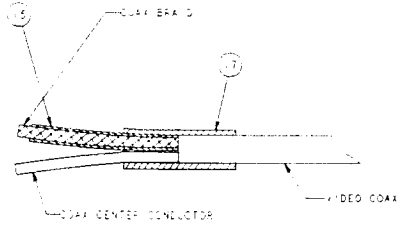
890015 A THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF ITEMS WITHOUT WRITTEN PERMISSION

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	RELEASED TO PROD	53802	DCS	12-11-96	AJK


(36)(37) SEE CHART "A" FOR WIRE LOCATIONS
WRAP ORANGE, BROWN & RED WIRES FOUR (4) TIMES AROUND FERRITE
SEE DETAIL F
T.E. WRAP ALL WIRES
(36)(37) SEE CHART "B" FOR WIRE LOCATIONS

SECTION E-E





DETAIL F
SCALE: NONE

WIRING CHART "A"	
PIN #	WIRE COLOR
1	BLACK
2	BROWN
3	RED
4	ORANGE
5	YELLOW
6	GREEN
7	BLUE
8	VIOLET

WIRING CHART "B"	
PIN #	WIRE COLOR
1	GRAY CENTER CONDUCTOR
2	GRAY BRAID
3	WHITE CENTER CONDUCTOR
4	WHITE BRAID

PART NO

DESCRIPTION

PROJECT FILE:

MATERIAL:

FINISH

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
TOLERANCES:
XX = ± .02 ANGLES: ± 1/2°
XXX = ± .005
TOLERANCES PER ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS - CLASS - 2A
INTERNAL THDS - CLASS - 2B

	DATE
DRAWN	29-Sep-96
DES SNED	
CHECKED	
NE	10/16/96
APPROVED	
AJK	10/16/96
RELEASED TO PROD	
RPD	10/17/96

Welch Allyn — SKANEATELES FALLS, NEW YORK, U.S.A.

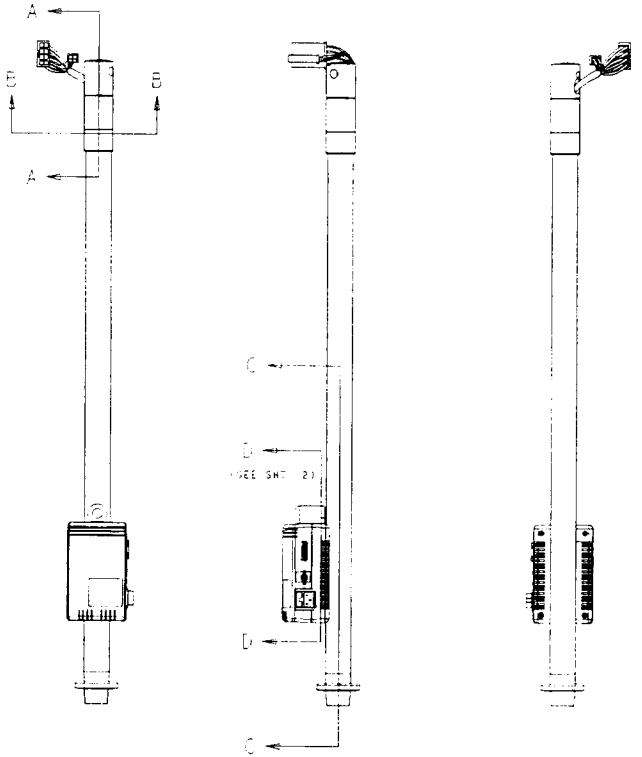
TITLE: ASSY., SWING ARM

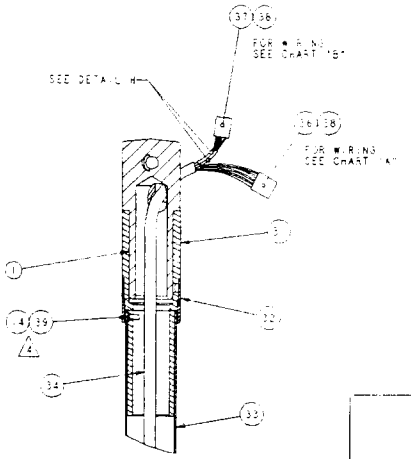
CODE IDENT: 84433 | SIZE: D | DRAWING NO: 890015 | REV: A

SCALE: DO NOT SCALE | SHEET: 3 OF 3

D 890018 A THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED OR COPIED OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD	S 33052	DCS	10/11/96	AIK

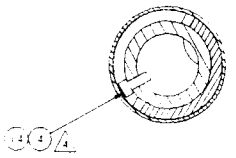




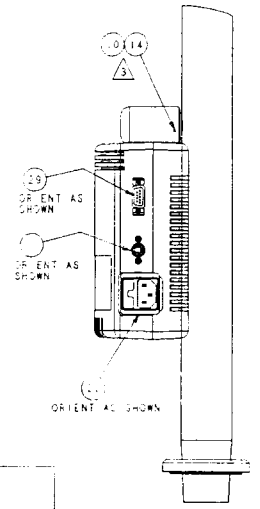
SECTION A-A
SCALE 1

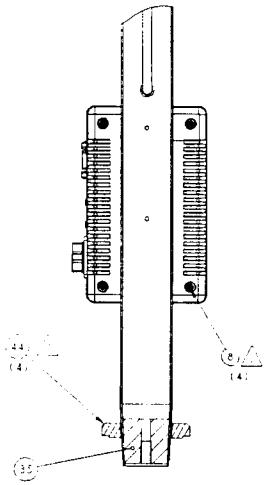
WIRING CHART "A"	
PIN #	WIRE COLOR
1	BLACK
2	BROWN
3	RED
4	ORANGE
5	YELLOW
6	GREEN
7	BLUE
8	VIOLET

WIRING CHART "B"	
PIN #	WIRE COLOR
1	GRAY CENTER CONDUCTOR
2	GRAY BRAID
3	WHITE CENTER CONDUCTOR
4	WHITE BRAID

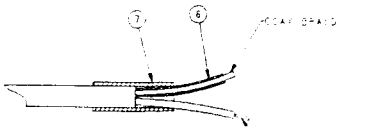


SECTION B-B
SCALE 1





SECTION C-C
SCALE 1



DETAIL H

NOTES:

1. TORQUE TO 15.00± .00 IN-LBS.
2. TORQUE TO 6.00±.25 IN-LBS.
3. TORQUE TO 8.25± 25 IN-LBS.
4. TORQUE TO 25.00±1.00 IN-LBS.
5. TORQUE TO 8.00± 25 IN-LBS.
6. TORQUE TO 12.00±.25 IN-LBS.
7. USING WASHER AND BOLT TO BE INCLUDED IN HARDWARE KIT, SEAT FLANGE (BALLOON 44) TO POLE (BALLOON 33) USING 35.00 FT-LBS.
8. ASSEMBLE PER SPEC A03588.

PART NO.	DESCRIPTION
PROE FILE POLE,SW HD ARM A03674	DRAWN DCS 3-Sep-96
MATERIAL	DESIGNED
FINISH	CHECKED MK 10/16/96
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: .XX ± .02 ANGLES ±1/2° .XXX ± .010	APPROVED AIK 10/16/96
TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS 2A INTERNAL THDS = CLASS 2B	REL TO PROD RPD 10/7/96

Welch Allyn USA SKANEATELES FALLS, NEW YORK U.S.A.

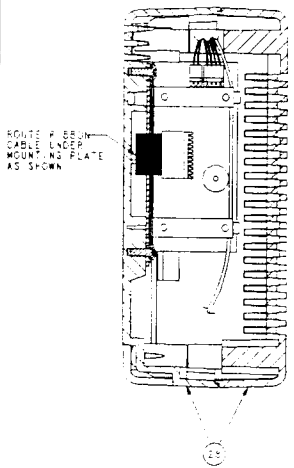
TITLE: ASSY, POLE, SWING ARM

CODE IDENT 84425 | D | DRAWING NO 890018 | REV A

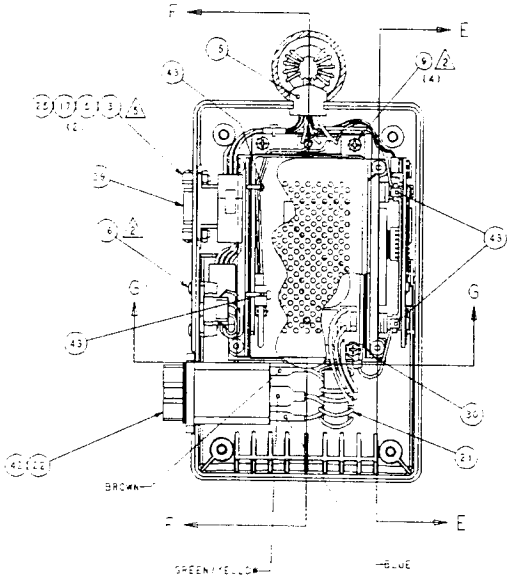
SCALE DO NOT SCALE | SHEET 1 OF 2

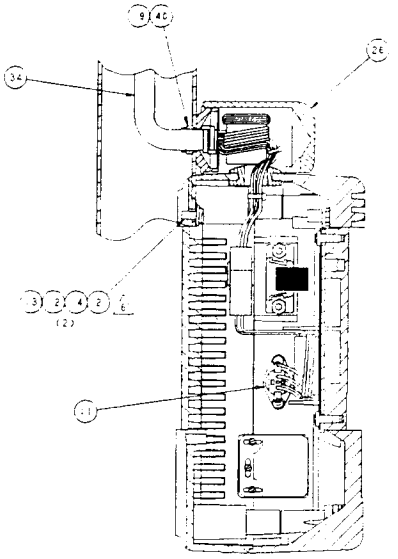
D 890018 A

REV	DESCRIPTION	ECN #	INIT.	DATE	APPR
A	REL. TO PROD ENG	53887	DCS	10/17/96	AIK



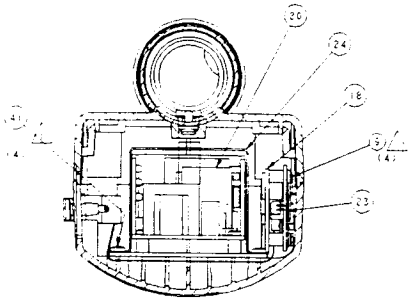
SECT ON E-E
SCALE 1





SECT ON F-F
SCALE

(SECT ON SHOWN WITH POWER SUPPLY & SHIELD REMOVED)

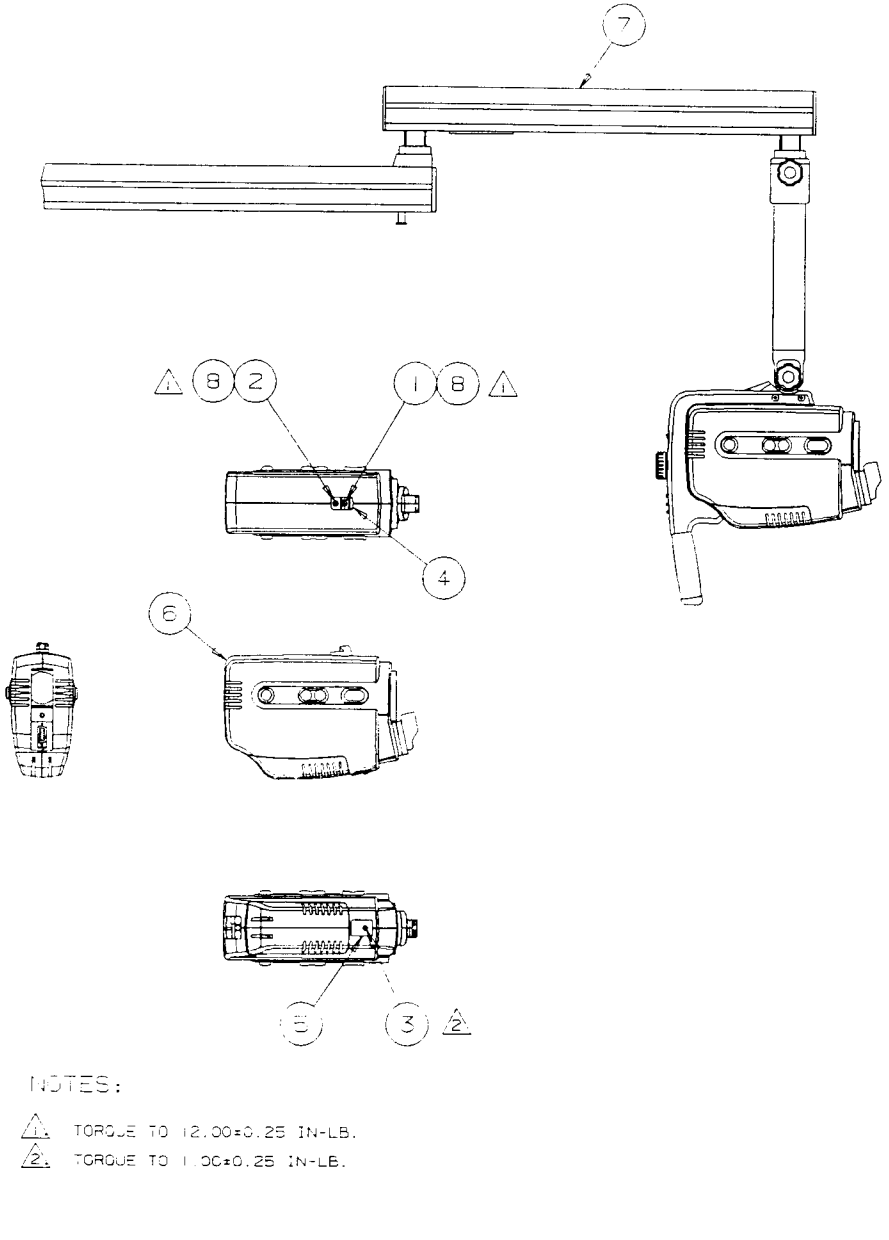


SECT ON G-G
SCALE

PART NO.		DESCRIPTION			
PRO-E FILE A.E. SWING ARM ASSEM	DRAWN	DATE 4-Sep-96	Welch Allyn	SKANEATELES FALLS NEW YORK U.S.A.	
MATERIAL:	DESIGNED		TITLE	ASSY, POLE, SWING ARM	
FINISH:	CHECKED MR	10/16/96			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING -TOLERANCES: XX ± .02 ANGLES ±1/2° XXX ± .005 TOLERANCES PER ANS Y14.5 & REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	APPROVED AIK	10/16/96	CODE IDENT 84425	D	DRAWING NO. 890018 REV A
	REL TO PROD RPD	10/17/96	SCALE	DO NOT SCALE	SHEET 2 OF 2

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION.

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	S-33837	CRW	10/29/96	AIK



NOTES:

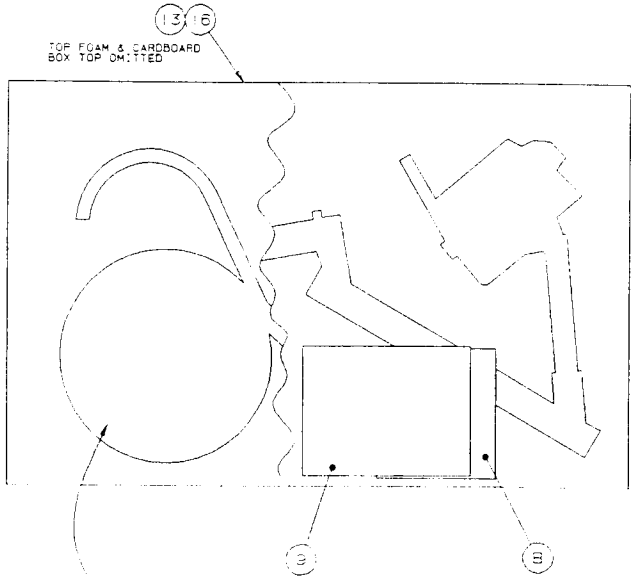
1. TORQUE TO 12.00±0.25 IN-LB.
2. TORQUE TO 1.00±0.25 IN-LB.

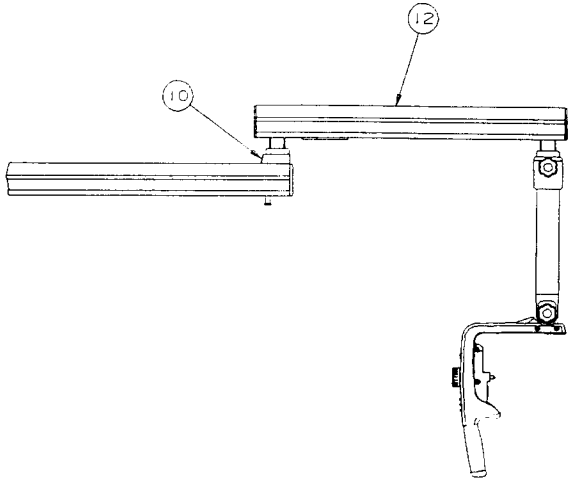
MATERIAL:	89003	COLP & SWING ARM - PAL	
	PART NO.	DESCRIPTION	
FINISH:	DRAWN CR WOJNOWICZ 10/29/96	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.	
	DESIGNED	TITLE: COLP & SWING ARM - PAL	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING -TOLERANCES- .XX = ±.02 ANGLES: ±1/2° .XXX = ±.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS = CLASS - 2A INTERNAL THDS = CLASS - 2B	CHECKED M KEHOSKIE 10/31/96		
	APPROVED A KRAUTER 10/31/96	CODE IDENT 64475 C	DRAWING NO. 890038 REV A
	REL TO PROD LAV 10/31/96	SCALE 1:4 DO NOT SCALE	SHEET 1 OF 1

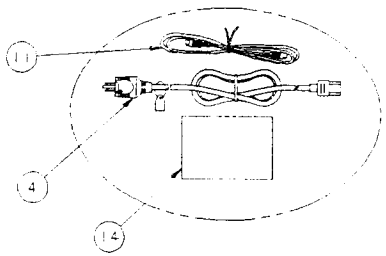
C 890038 A

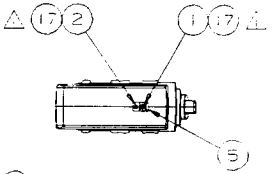
890056 A THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION

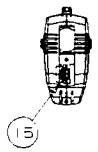
REV	DESCRIPTION	ECN	INIT.	DATE	APPR.
A	REL TO PROD ENG	33837	CRV	10/23/96	AIK

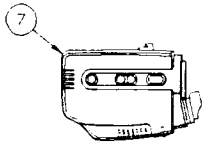


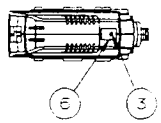












NOTES:

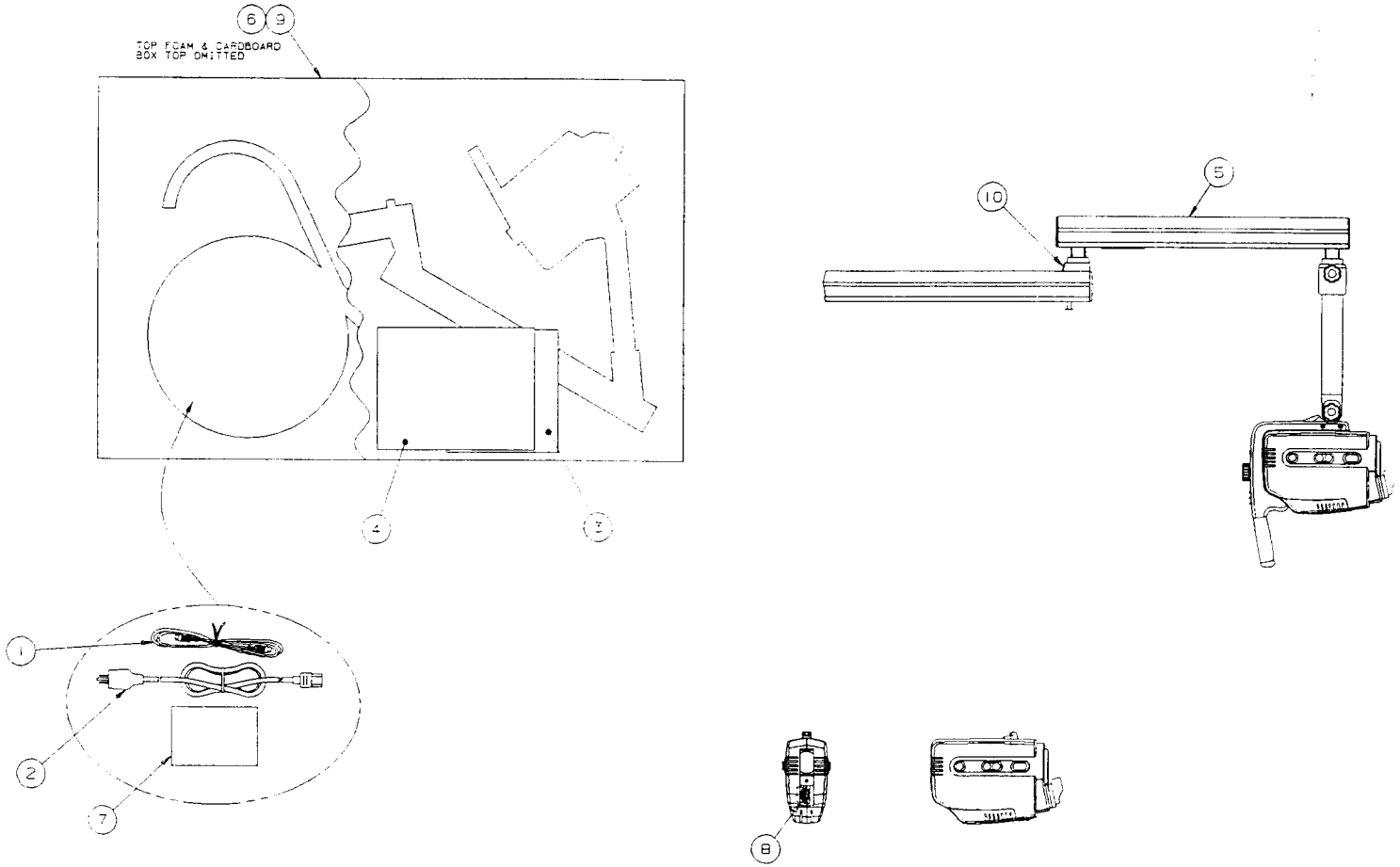
△1 TORQUE TO 12.00±0.25 IN-LB.

△2 TORQUE TO 1.00±0.25 IN-LB.

MATERIAL:	89021 PART NO.	COLP & SWING ARM, NTSC DESCRIPTION	
FINISH:	DRAWN DR WONKWICZ 10/23/96	Welch Allyn SKANEATELES FALLS, NEW YORK U.S.A.	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING TOLERANCES: XX ± 0.02 ANGLES: ±1/2° .XXX ± 0.005 TOLERANCES PER ANSI Y14.5 REMOVE BURRS & SHARP EDGES EXTERNAL THDS - CLASS - 2A INTERNAL THDS - CLASS - 2B	DESIGNED	TITLE: COLP & SWING ARM NTSC, PKGD	
	CHECKED M KOKOSKIE 10/31/96		
	APPROVED A CRAUFER 10/31/96	CODE IDENT 64479 D	DRAWING NO. 890056 REV A
	REL TO PROD LAY 10/31/96	SCALE 1:4 DO NOT SCALE	SHEET 1 OF 1

890057 | A | THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF WELCH ALLYN, INC. AND SHALL NOT BE REPRODUCED, OR COPIED, OR USED AS A BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT OR DEVICES WITHOUT WRITTEN PERMISSION

REV	DESCRIPTION	ECN	INIT	DATE	APPR
A	REL TO PROD ENG	8937	CRV	10/23/96	AIK



89026	COLP & SWING ARM, AUS
89024	COLP & SWING ARM, UK
89022	COLP & SWING ARM, EUR

PART NO. | DESCRIPTION

MATERIAL:

FINISH:

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE PLATING
TOLERANCES:
XX = ± .02 ANGLES: ±1/2°
.XXX = ± .005
TOLERANCES PER ANSI Y14.5
REMOVE BURRS & SHARP EDGES
EXTERNAL THDS = CLASS - 2A
INTERNAL THDS = CLASS - 2B

	DRAWN	DATE
	DR WOJNOWICZ	10/25/96
DESIGNED		
CHECKED	M KEHOSKIE	10/31/96
APPROVED	A KRAUTER	10/31/96
REL TO PROD	LAY	10/31/96

Welch Allyn, SKANEATELES FALLS, NEW YORK U.S.A.

TITLE: COLP & SWING ARM PAL, PKGD

CODE IDENT 84476 | D | DRAWING NO. 890057 | REV A

SCALE 1:4 | DO NOT SCALE | SHEET 1 OF 1